

Request: Jan Deval

Access DB#

126754

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Sabiha Bay Examiner #: 74141 Date: 7/8/04
Art Unit: 1616 Phone Number: 20622 Serial Number: 091910887
Mail Box and Bldg/Room Location: 4C70 Rm 4A45 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc. if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Novel Aglycon Danmarane Saponogenesis
Inventors (please provide full names): HUANG et al

Earliest Priority Filing Date: 7/24/2001

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please search Comps of Cl 9 + 10:
Please expand the search for any
positional isomers at 3, 6, + 12 vs.
1, 2, 7 + 11 in PBM-100.
Please note no OH in PAM-1200

Thank you

STAFF USE ONLY

Searcher: an
Searcher Phone #: 22504
Searcher Location: _____
Date Searcher Picked Up: 7/12
Date Completed: 7/12
Searcher Prep & Review Time: _____
Clerical Prep Time: 70
Online Time: 720

Type of Search

NA Sequence (#) _____
AA Sequence (#) _____
Structure (#) ✓
Bibliographic _____
Litigation _____
Fulltext _____
Patent Family _____
Other _____

Vendors and cost where applicable

STN ✓
Dialog _____
Questel/Orbit _____
Dr.Link _____
Lexis/Nexis _____
Sequence Systems _____
WWW/Internet _____
Other (specify) _____

GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
 LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
 PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,
 UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU,
 TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG,
 CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,
 PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,
 NE, SN, TD, TG

BR 2002005792 A 20030722 BR 2002-5792 20020724

EP 1414843 A1 20040506 EP 2002-750733 20020724

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK

PRAI US 2001-910887 A2 20010724

US 2001-982018 A 20011019

WO 2002-CA1173 W 20020724

OS MARPAT 138:362651

AB This invention relates to a group of novel sapogenins, their use in anticancer applications, and to a process for their production. More particularly, this invention pertains to a novel group of dammarane sapogenins, **PAM-120**, **PBM-110** and **PBM-100** (the dammarane sapogenin structure is specifically clean of any sugar moieties (glycons) at any position and hydroxyl at C-20) and **PAN-20** and **PAN-30** (the dammarane sapogenin structure has sugar moieties but is free of hydroxyl at C-20), obtained by chemical cleavage of dammarane saponins. The invention also includes a novel application of the said sapogenins for anticancer treatment by using them sep. or together, and/or jointly with other drugs, as well as to the process of producing these novel sapogenins. Said novel dammarane sapogenins show surprising anticancer effect when applied, particularly against multidrug resistant cancers.

ST Ginseng dammarane sapogenin isolation antitumor resistance

IT Drug resistance

(antitumor; isolation of dammarane sapogenins and their use as anticancer agents)

IT Saponins

RL: PAC (Pharmacological activity); PRP (Properties); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(dammarane, aglycons; isolation of dammarane sapogenins and their use as anticancer agents)

IT Sapogenins

RL: PAC (Pharmacological activity); PRP (Properties); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(dammarane; isolation of dammarane sapogenins and their use as anticancer agents)

IT Antitumor agents

Drug delivery systems

Human

Multidrug resistance

Neoplasm

Panax notoginseng

Panax pseudoginseng

Panax quinquefolium

(isolation of dammarane sapogenins and their use as anticancer agents)

IT Metal alkoxides

RL: RCT (Reactant); RACT (Reactant or reagent)

(isolation of dammarane sapogenins and their use as anticancer agents)

IT Antitumor agents

(resistance to; isolation of dammarane sapogenins and their use as anticancer agents)

IT 174688-80-3P, PAM-110 364779-14-6P, PAN-20 494753-66-1P,

PAM-120 494753-67-2P, PbM-

100 494753-69-4P, PAN-30

RL: PAC (Pharmacological activity); PRP (Properties); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(isolation of dammarane sapogenins and their use as anticancer agents)

IT 494753-66-1P, PAM-120 494753-67-2P, PbM-100

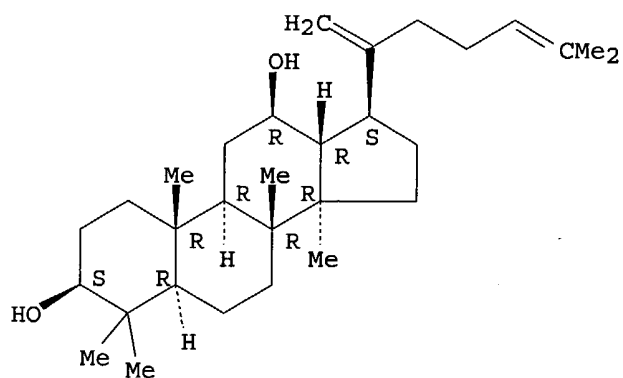
RL: PAC (Pharmacological activity); PRP (Properties); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(isolation of dammarane sapogenins and their use as anticancer agents)

RN 494753-66-1 HCAPLUS

CN Dammara-20,24-diene-3,12-diol, (3 β ,12 β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

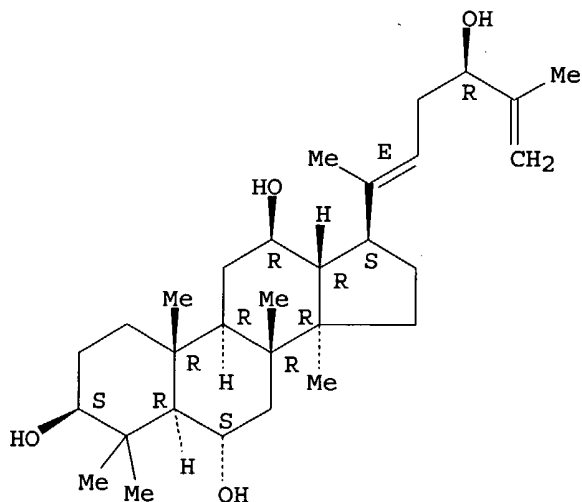


RN 494753-67-2 HCAPLUS

CN Dammara-20 (22),25-diene-3,6,12,24-tetrol, (3 β ,6 α ,12 β ,20E,24R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

Double bond geometry as shown.



L16 ANSWER 4 OF 4 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:97432 HCAPLUS

DN 138:133977

ED Entered STN: 07 Feb 2003
 TI Process for producing novel dammarane sapogenins and their use as anticancer agents
 IN Huang, Dong; Qi, Dong Feng
 PA Panagin Pharmaceuticals Inc., Can.
 SO PCT Int. Appl., 40 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 IC ICM C07J017-00
 ICS A61P035-00
 CC 11-1 (Plant Biochemistry)
 Section cross-reference(s): 1, 17, 30, 33, 63
 FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003010182	A1	20030206	WO 2002-CA1173	20020724
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
	US 2003087835	A1	20030508	US 2001-910887	20010724
	US 2003087836	A1	20030508	US 2001-982018	20011019
	BR 2002005792	A	20030722	BR 2002-5792	20020724
	EP 1414843	A1	20040506	EP 2002-750733	20020724
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK			
PRAI	US 2001-910887	A	20010724		
	US 2001-982018	A	20011019		
	WO 2002-CA1173	W	20020724		
OS	MARPAT 138:133977				
GI					

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The present invention relates to a group of novel dammarane sapogenins, such as I [R1 = H, glc, glc(1→2)glc; R2 = H, OH; R3 = Me, CH2], their use in anticancer applications, and to a process for their production from ginseng. More particularly, this invention pertains to a novel group of dammarane sapogenins, **PAM-120** I (R1, R2 = H; R3 = CH2; dashed bond = double bond), **PBM-110** II (R1 = H; R2 = OH) and **PBM-100** (III) (the dammarane sapogenin structure is specifically clean of any sugar moieties at any position and hydroxyl at C-20), and **PAN-20** I [R1 = β-D-glucopyranosyl; R2 = H; R3 = CH2; dashed bond = double bond] and **PAN-30** II [R1 = β-D-glucopyranosyl(1→2) β-D-glucopyranosyl; R2 = H] (the dammarane sapogenin structure has sugar moieties but is free of hydroxyl at C-20), obtained by chemical cleavage of dammarane saponins. A novel application of I-III for anti-cancer treatment by using them sep. or together, and/or jointly with other drugs, particularly against multi-drug resistant cancers.

ST dammarane sapogenin prepn anticancer glycoside; ginseng saponin dammarane hydrolysis sapogenin prepn

- IT Drug delivery systems
(aerosols; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
- IT Metal alkoxides
RL: RGT (Reagent); RACT (Reactant or reagent)
(alkali metal; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
- IT Alkali metal compounds
RL: RGT (Reagent); RACT (Reactant or reagent)
(alkoxides; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
- IT Drug delivery systems
(capsules; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
- IT Triterpenes
RL: PAC (Pharmacological activity); PUR (Purification or recovery); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(dammarane; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
- IT Drug delivery systems
(drops; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
- IT Drug delivery systems
(emulsions; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
- IT Drug delivery systems
(enemas; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
- IT Ginsenosides
RL: PAC (Pharmacological activity); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(extract; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
- IT Silica gel adsorbents
(for column chromatog.; for purifying dammarane sapogenins)
- IT Liquid chromatography
(for purifying dammarane sapogenins)
- IT Triterpenes
RL: PAC (Pharmacological activity); PUR (Purification or recovery); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(glycosides, dammarane; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
- IT Drug delivery systems
(granules; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
- IT Apoptosis
(in cancer cells; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
- IT Beverages
(lemonade; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
- IT Drug delivery systems
(liniments; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
- IT Drug delivery systems
(liqs.; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
- IT Drug delivery systems
(lotions; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)

- IT Neuroglia, neoplasm
(malignant, treatment; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
- IT Sarcoma
(murine, treatment; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
- IT Drug delivery systems
(ointments; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
- IT Drug delivery systems
(pastes; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
- IT Drug delivery systems
(powders; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
- IT Antitumor agents
Human
Panax
Panax notoginseng
Panax pseudoginseng
Panax quinquefolium
(process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
- IT Triterpenes
RL: IMF (Industrial manufacture); NPO (Natural product occurrence); PAC (Pharmacological activity); PUR (Purification or recovery); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); USES (Uses)
(sapogenins; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
- IT Drug delivery systems
(solns.; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
- IT Drug delivery systems
(suppositories; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
- IT Drug delivery systems
(suspensions; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
- IT Drug delivery systems
(syrups; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
- IT Drug delivery systems
(tablets; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
- IT Mammary gland, neoplasm
Melanoma
Neoplasm
(treatment; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
- IT Glycosides
RL: PAC (Pharmacological activity); PUR (Purification or recovery); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(triterpenoid, dammarane; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)
- IT Sapogenins
RL: IMF (Industrial manufacture); NPO (Natural product occurrence); PAC (Pharmacological activity); PUR (Purification or recovery); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); USES (Uses)
(triterpenoid; process for producing dammarane sapogenins from ginseng and their use as anticancer agents)

IT 174688-80-3P, PAM 110 364779-14-6P, PAN 20 494753-66-1P,
PAM 120 494753-67-2P, PBM
100 494753-69-4P, PAN 30
 RL: IMF (Industrial manufacture); NPO (Natural product occurrence); PAC
 (Pharmacological activity); PUR (Purification or recovery); SPN (Synthetic
 preparation); THU (Therapeutic use); BIOL (Biological study); OCCU
 (Occurrence); PREP (Preparation); USES (Uses)
 (process for producing dammarane sapogenins from ginseng and their use
 as anticancer agents)

IT 64-17-5, Ethanol, uses
 RL: NUU (Other use, unclassified); USES (Uses)
 (process for producing dammarane sapogenins from ginseng and their use
 as anticancer agents)

IT 15663-27-1, Cisplatin 33069-62-4, Taxol
 RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (process for producing dammarane sapogenins from ginseng and their use
 as anticancer agents)

IT 1310-58-3, Potassium hydroxide, reactions 1310-73-2, Sodium hydroxide,
 reactions
 RL: RGT (Reagent); RACT (Reactant or reagent)
 (process for producing dammarane sapogenins from ginseng and their use
 as anticancer agents)

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD

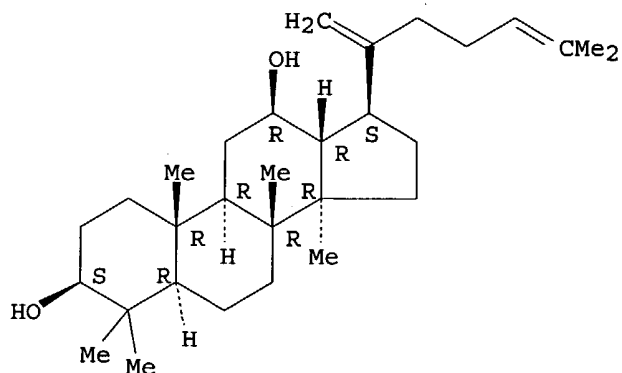
RE
 (1) Kwon, S; JOURNAL OF CHROMATOGRAPHY 2001, V921(2), P335 HCAPLUS
 (2) Park, J; WO 9731933 A 1997 HCAPLUS

IT 494753-66-1P, PAM 120 494753-67-2P,
PBM 100
 RL: IMF (Industrial manufacture); NPO (Natural product occurrence); PAC
 (Pharmacological activity); PUR (Purification or recovery); SPN (Synthetic
 preparation); THU (Therapeutic use); BIOL (Biological study); OCCU
 (Occurrence); PREP (Preparation); USES (Uses)
 (process for producing dammarane sapogenins from ginseng and their use
 as anticancer agents)

RN 494753-66-1 HCAPLUS

CN Dammara-20,24-diene-3,12-diol, (3 β ,12 β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



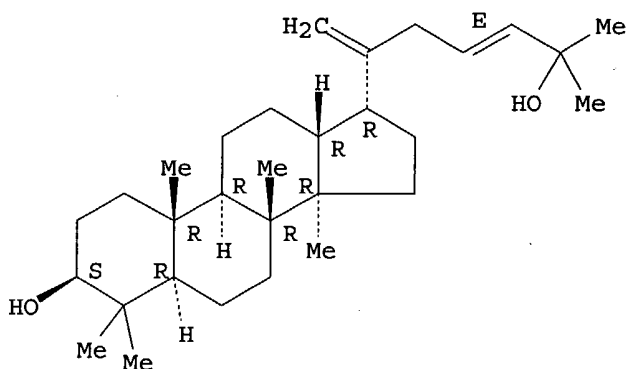
RN 494753-67-2 HCAPLUS

CN Dammara-20(22),25-diene-3,6,12,24-tetrol, (3 β ,6 α ,12 β ,20E,2
 4R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
 Double bond geometry as shown.

FS STEREOSEARCH
MF C30 H50 O2
SR CA
LC STN Files: CA, CAPLUS, CASREACT, TOXCENTER, USPATFULL
DT.CA Caplus document type: Journal; Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)
RL.NP Roles from non-patents: BIOL (Biological study); OCCU (Occurrence); PREP (Preparation)

Absolute stereochemistry. Rotation (-).
Double bond geometry as shown.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 131:214445

REFERENCE 2: 125:11178

L10 ANSWER 2 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN
RN 166241-40-3 REGISTRY
CN Dammara-20(22),24-diene-3,12-diol, (3 β ,12 β ,20Z)- (9CI) (CA INDEX NAME)

OTHER NAMES:

CN Quasipanaxadiol

FS STEREOSEARCH

MF C30 H50 O2

SR CA

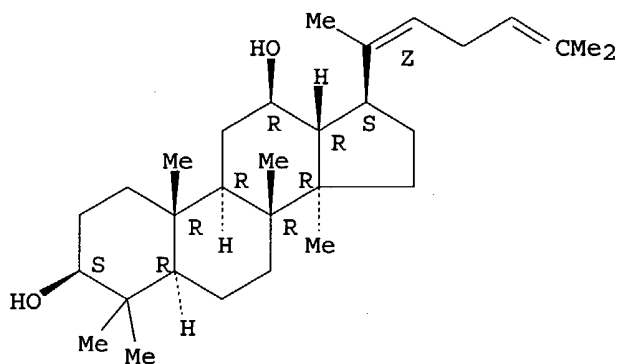
LC STN Files: CA, CAPLUS, TOXCENTER

DT.CA Caplus document type: Journal; Patent

RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

RL.NP Roles from non-patents: PREP (Preparation); PRP (Properties)

Absolute stereochemistry.
Double bond geometry as shown.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 126:79904

REFERENCE 2: 123:122844

L10 ANSWER 3 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN

RN 166241-39-0 REGISTRY

CN Dammara-20(22),24-diene-3,12-diol, (3β,12β,20E)- (9CI) (CA
INDEX NAME)

OTHER NAMES:

CN Quasiprotopanxadiol

FS STEREOSEARCH

MF C30 H50 O2

SR CA

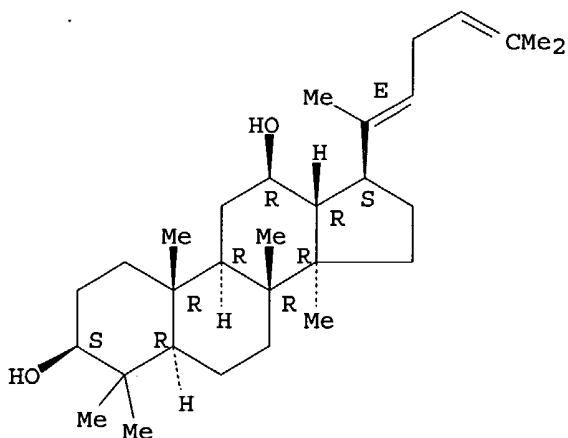
LC STN Files: CA, CAPLUS, TOXCENTER

DT.CA Caplus document type: Journal

RL.NP Roles from non-patents: BIOL (Biological study); PREP (Preparation);
PRP (Properties); USES (Uses)

Absolute stereochemistry.

Double bond geometry as shown.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

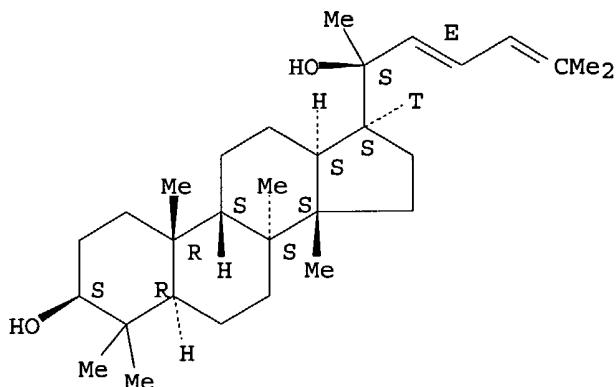
2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 125:157877

REFERENCE 2: 123:122844

L10 ANSWER 4 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN
RN 136658-82-7 REGISTRY
CN Dammara-22,24-diene-17-t-3,20-diol, (3 β ,8 α ,9 β ,13 α ,14
 β ,22E)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C30 H49 O2 T
SR CA
LC STN Files: CA, CAPLUS
DT.CA Caplus document type: Journal
RL.NP Roles from non-patents: PREP (Preparation); RACT (Reactant or reagent)

Absolute stereochemistry.
Double bond geometry as shown.

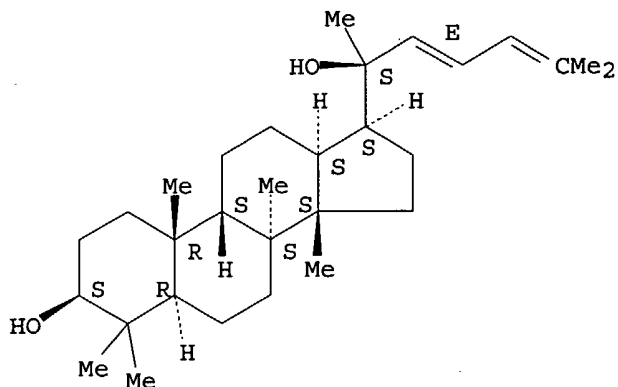


1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 115:232555

L10 ANSWER 5 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN
RN 136658-81-6 REGISTRY
CN Dammara-22,24-diene-3,20-diol, (3 β ,8 α ,9 β ,13 α ,14. β
.,22E)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C30 H50 O2
SR CA
LC STN Files: BEILSTEIN*, CA, CAPLUS, CHEMINFORMRX
(*File contains numerically searchable property data)
DT.CA Caplus document type: Journal
RL.NP Roles from non-patents: PREP (Preparation); RACT (Reactant or reagent)

Absolute stereochemistry.
Double bond geometry as shown.



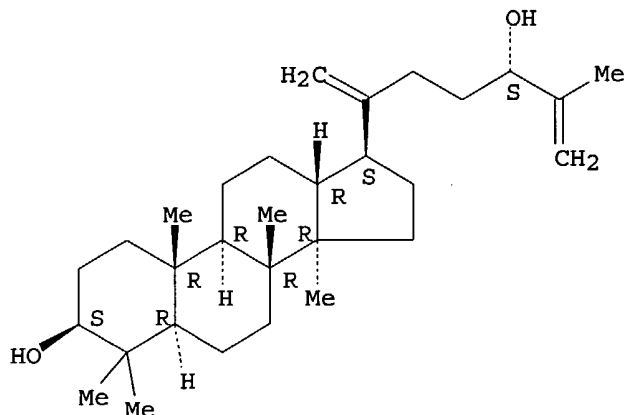
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1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 115:232555

L10 ANSWER 6 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN
RN 128778-80-3 REGISTRY
CN Dammara-20,25-diene-3,24-diol, (3 β ,24S)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C30 H50 O2
SR CA
LC STN Files: BEILSTEIN*, CA, CAPLUS, TOXCENTER
(*File contains numerically searchable property data)
DT.CA Caplus document type: Journal
RL.NP Roles from non-patents: BIOL (Biological study); PREP (Preparation);
PRP (Properties); USES (Uses)

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

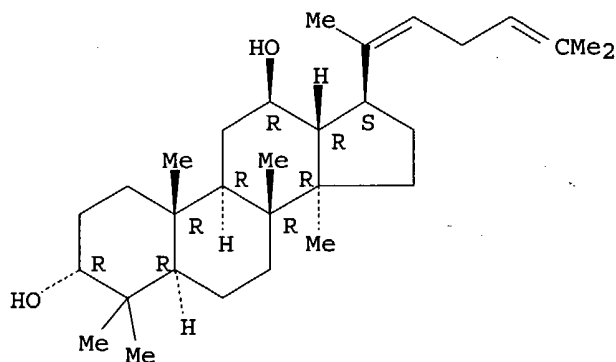
2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 138:268408

REFERENCE 2: 113:94735

L10 ANSWER 7 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN
RN 108266-93-9 REGISTRY
CN Dammara-20(22),24-diene-3,12-diol, (3 α ,12 β)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C30 H50 O2
SR CA
LC STN Files: BEILSTEIN*, CA, CAPLUS, CASREACT
(*File contains numerically searchable property data)
DT.CA Cplus document type: Journal
RL.NP Roles from non-patents: PREP (Preparation)

Absolute stereochemistry.
Double bond geometry unknown.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

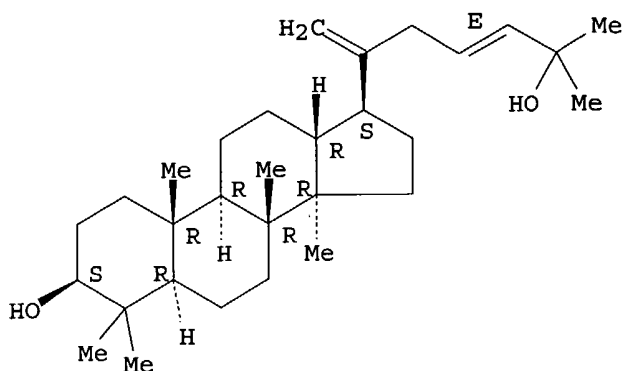
2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 109:231403

REFERENCE 2: 107:23596

L10 ANSWER 8 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN
RN 101559-95-9 REGISTRY
CN Dammara-20,23-diene-3,25-diol, (3 β ,23E)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C30 H50 O2
SR CA
LC STN Files: CA, CAPLUS, CASREACT, TOXCENTER, USPATFULL
DT.CA Cplus document type: Journal; Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)
RL.NP Roles from non-patents: BIOL (Biological study); PREP (Preparation); PRP (Properties); USES (Uses)

Absolute stereochemistry.
Double bond geometry as shown.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

4 REFERENCES IN FILE CA (1907 TO DATE)
4 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 138:268408

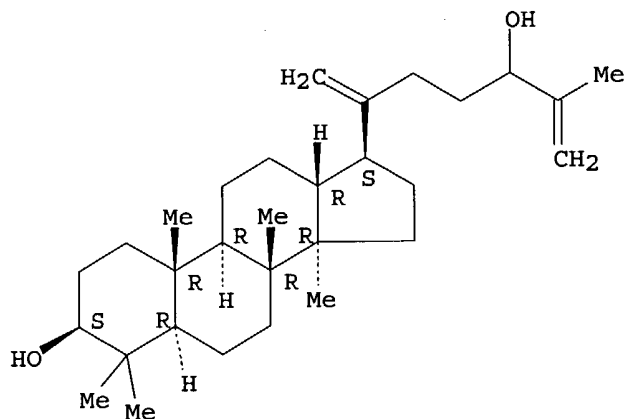
REFERENCE 2: 131:214445

REFERENCE 3: 125:11178

REFERENCE 4: 104:165322

L10 ANSWER 9 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN
RN 101559-89-1 REGISTRY
CN Dammara-20,25-diene-3,24-diol, (3 β)-(9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C30 H50 O2
SR CA
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)
DT.CA Caplus document type: Journal
RL.NP Roles from non-patents: PREP (Preparation)

Absolute stereochemistry.



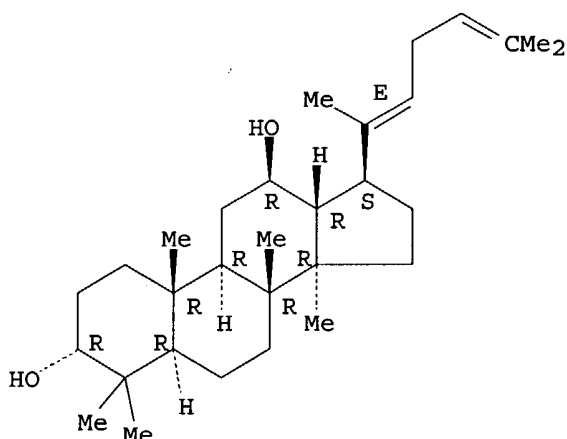
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 104:165322

L10 ANSWER 10 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN
RN 89951-13-3 REGISTRY
CN Dammara-20(22),24-diene-3,12-diol, (3 α ,12 β ,20E)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C30 H50 O2
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)
DT.CA Caplus document type: Journal
RL.NP Roles from non-patents: PRP (Properties)

Absolute stereochemistry.
Double bond geometry as shown.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 100:192109

L10 ANSWER 11 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN
RN 22968-80-5 REGISTRY
CN Dammara-17(20),24-diene-3,28-diol, (3 β ,4 β ,8 α ,9 β ,13 α l pha.,14 β ,17Z)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 8 α ,9 β ,13 α ,14 β -Dammara-17(20),24-diene-3 β ,28-diol, (Z)- (8CI)
FS STEREOSEARCH
MF C30 H50 O2
LC STN Files: BEILSTEIN*, CA, CAPLUS, USPATFULL
(*File contains numerically searchable property data)
DT.CA Caplus document type: Journal; Patent
RL.P Roles from patents: PREP (Preparation); RACT (Reactant or reagent)
RL.NP Roles from non-patents: PREP (Preparation)

Absolute stereochemistry.
Double bond geometry as shown.

FILE 'HCAPLUS' ENTERED AT 11:22:41 ON 12 JUL 2004

=> => fil reg

FILE 'REGISTRY' ENTERED AT 11:34:36 ON 12 JUL 2004

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Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 11 JUL 2004 HIGHEST RN 708207-86-7

DICTIONARY FILE UPDATES: 11 JUL 2004 HIGHEST RN 708207-86-7

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:

<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> d his

(FILE 'HOME' ENTERED AT 11:26:02 ON 12 JUL 2004)

SET COST OFF

FILE 'REGISTRY' ENTERED AT 11:26:12 ON 12 JUL 2004

L1 496 S (C30H50O2 OR C30H50O4)/MF AND C5-C6-C6-C6/ES
L2 172 S L1 AND 4432.3.1/RID
L3 88 S L2 AND ONE
L4 29 S L2 AND NR>=5
L5 74 S L2 NOT L3,L4
L6 49 S L5 NOT ACETATE
L7 24 S L6 NOT ACID
L8 22 S L7 NOT (494753-67-2 OR 494753-66-1)
L9 11 S L8 NOT DAMMARA
L10 11 S L8 NOT L9

FILE 'HCAOLD' ENTERED AT 11:33:36 ON 12 JUL 2004

L11 0 S L10

FILE 'USPATFULL, USPAT2' ENTERED AT 11:33:38 ON 12 JUL 2004

L12 2 S L10

FILE 'HCAPLUS' ENTERED AT 11:33:42 ON 12 JUL 2004

L13 14 S L10
L14 13 S L13 AND (PD<=20010724 OR PRD<=20010724 OR AD<=20010724)
L15 14 S L13,L14

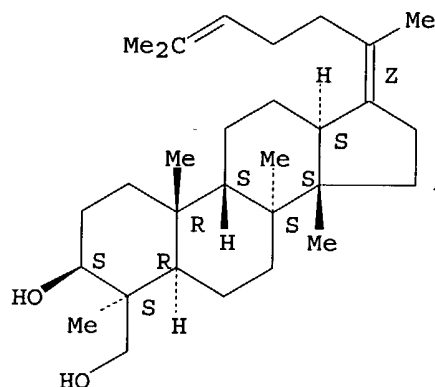
FILE 'REGISTRY' ENTERED AT 11:34:36 ON 12 JUL 2004

=> d l10 ide can tot

L10 ANSWER 1 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN

RN 177472-08-1 REGISTRY

CN Dammara-20,23-diene-3,25-diol, (3 β ,17 α ,23E)- (9CI) (CA INDEX NAME)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 126:277630

REFERENCE 2: 70:4377

=> fil uspatall

FILE 'USPATFULL' ENTERED AT 11:34:46 ON 12 JUL 2004

CA INDEXING COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'USPAT2' ENTERED AT 11:34:46 ON 12 JUL 2004

CA INDEXING COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)

=> d l12 bib abs hitstr tot

L12 ANSWER 1 OF 2 USPATFULL on STN

AN 2001:10880 USPATFULL

TI Tetracyclic triterpenes as cholesterol-lowering and anti-atherosclerosis agents

IN von Daehne, Welf, Rungsted Kyst, Denmark

Godtfredsen, Wagn Ole, V.ae buttet.rl.o slashed.se, Denmark

PA Leo Pharmaceutical Products Ltd. A/S, Ballerup, Denmark (non-U.S. corporation)

PI US 6177418 B1 20010123

WO 9710256 19970320

AI US 1998-43243 19980316 (9)

WO 1996-DK359 19960828

19980316 PCT 371 date

19980316 PCT 102(e) date

PRAI GB 1995-18883 19950915

DT Utility

FS Granted

EXNAM Primary Examiner: Badio, Barbara

LREP Pillsbury Madison & Sutro LLP

CLMN Number of Claims: 7

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 1053

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention is directed to compounds, compositions and method of

preparation of compounds of formulae I and II: ##STR1##

wherein X, Q.^{sup.1}, Q.^{sup.2}, R.^{sup.1} and R.^{sup.2} are as defined by the specification. The compounds are disclosed as useful cholesterol-lowering and anti-atherosclerosis agents.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 22968-80-5P

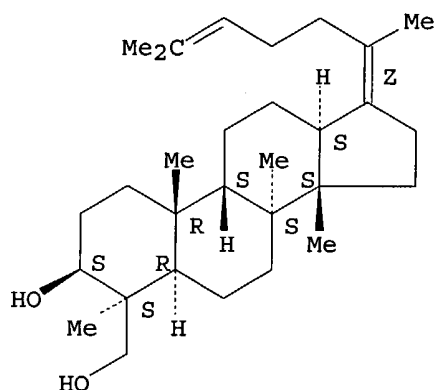
(preparation of hydroxyprotostadienoic acid derivs. as anticholesteremic and antiatherosclerotic agents)

RN 22968-80-5 USPATFULL

CN Dammara-17(20),24-diene-3,28-diol, (3 β ,4 β ,8 α ,9 β ,13 α l pha.,14 β ,17Z)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

Double bond geometry as shown.



L12 ANSWER 2 OF 2 USPATFULL on STN

AN 1998:159936 USPATFULL

TI Tetracyclic triterpenes

IN Hiestand, Peter, Allschwil, Switzerland

Naef, Reto, Rheinfelden, Switzerland

Naegeli, Hans-Ulrich, Arlesheim, Switzerland

Oberer, Lukas, Tenniken, Switzerland

Revesz, Laszlo, Therwil, Switzerland

Roth, Hans-Jorg, Gipf-Oberfrick, Switzerland

PA Novartis AG, Basel, Switzerland (non-U.S. corporation)

PI US 5852005 19981222

WO 9603419 19960208

AI US 1997-776442 19970124 (8)

WO 1995-EP2913 19950724

19970124 PCT 371 date

19970124 PCT 102(e) date

PRAI GB 1994-1516 19940727

DT Utility

FS Granted

EXNAM Primary Examiner: Clardy, S. Mark; Assistant Examiner: Qazi, Sabiha N.

LREP Loeschorn, Carol A.

CLMN Number of Claims: 15

ECL Exemplary Claim: 1

DRWN 3 Drawing Figure(s); 3 Drawing Page(s)

LN.CNT 1176

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to 17 α -dammara compounds having immunosuppressant and antiinflammatory activity and which are useful as pharmaceuticals, particularly for use as immunosuppressant and

antiinflammatory agents. Specific 17 α -dammara compounds are included per se, for example the compound of formula IC, i.e. 17 α -23-(E)-dammara-20, 23-dien-3 β , 25-diol, which may be obtained from the flour of the shoots of the Palmyrah palm, *Borassus flabellifer* L. In addition, processes for the synthesis of this and other dammara compounds and intermediates thereof are described.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

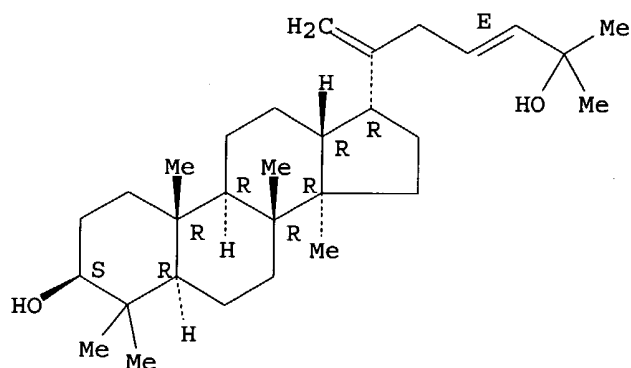
IT 177472-08-1P

(preparation of tetracyclic triterpenes with immunosuppressant and antiinflammatory activity)

RN 177472-08-1 USPATFULL

CN Dammara-20,23-diene-3,25-diol, (3 β ,17 α ,23E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).
Double bond geometry as shown.



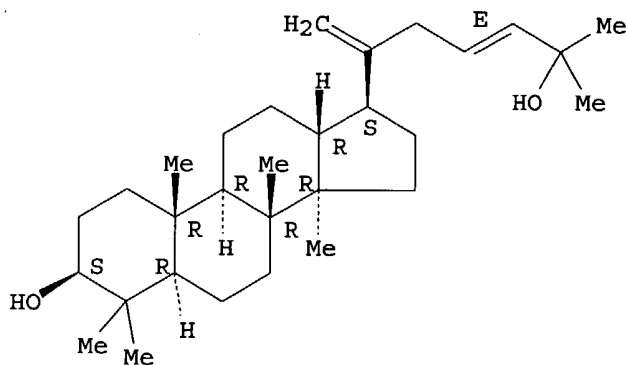
IT 101559-95-9P

(preparation of tetracyclic triterpenes with immunosuppressant and antiinflammatory activity)

RN 101559-95-9 USPATFULL

CN Dammara-20,23-diene-3,25-diol, (3 β ,23E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



=> fil hcplus

FILE 'HCAPLUS' ENTERED AT 11:35:12 ON 12 JUL 2004

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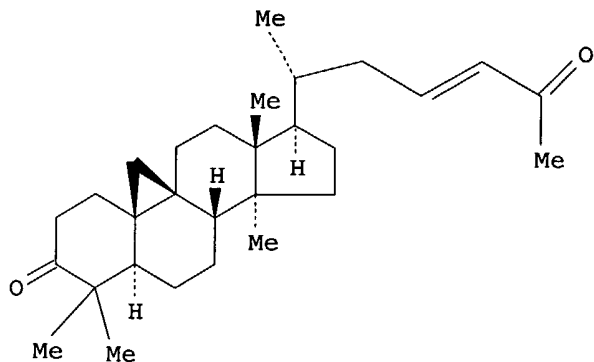
FILE COVERS 1907 - 12 Jul 2004 VOL 141 ISS 3

FILE LAST UPDATED: 11 Jul 2004 (20040711/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d all hitstr tot

L15 ANSWER 1 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:67368 HCAPLUS
DN 138:268408
ED Entered STN: 29 Jan 2003
TI Natural anti-HIV agents. Part IV. Anti-HIV constituents from *Vatica cinerea*
AU Zhang, Hong-Jie; Tan, Ghee Teng; Hoang, Vu Dinh; Hung, Nguyen Van; Cuong, Nguyen Manh; Soejarto, D. Doel; Pezzuto, John M.; Fong, Harry H. S.
CS Program for Collaborative Research in the Pharmaceutical Sciences (m/c877), Department of Medicinal Chemistry and Pharmacognosy, College of Pharmacy, University of Illinois at Chicago, Chicago, IL, 60612, USA
SO Journal of Natural Products (2003), 66(2), 263-268
CODEN: JNPRDF; ISSN: 0163-3864
PB American Chemical Society
DT Journal
LA English
CC 11-1 (Plant Biochemistry)
Section cross-reference(s): 1
GI



AB In a continuing search for anti-HIV compds. from plants of Vietnam, a number of compds., including a new triterpene, were isolated from an extract of the leaves and stem of *Vatica cinerea*. The new triterpene was determined to be a cycloartane triterpenoid with 29 skeletal carbons and was assigned the

name vaticinone (I). The known triterpenes included three cycloartanes, a lanostane, two dammaranes, three lupanes, an ursane, and an oleanane. A chlorophyll isolate was identified as pheophorbide a. The majority of the triterpenes, the sesquiterpene, 1-hydroxycyclocolorone, and pheophorbide a showed anti-HIV activity, with the chlorophyll being the most active, demonstrating an IC₅₀ value of 1.5 µg/mL (2.5 µM), while being completely devoid of toxicity up to a concentration of 20 µg/mL (33.8 µM). Vaticinone was found to inhibit the replication of HIV-1, with an IC₅₀ value of 6.5 µg/mL (15.3 µM; selective index = 1.4). The structures of these isolates were determined by spectral data including 1D and 2D NMR spectra.

- ST HIV triterpene virucide vaticinone Vatica
 IT Antiviral agents
 Human immunodeficiency virus
 Leaf
 Stem
 Vatica cinerea
 (anti-HIV constituents from leaves and stems of Vatica cinerea)
- IT Triterpenes
 RL: BSU (Biological study, unclassified); PRP (Properties); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (anti-HIV constituents from leaves and stems of Vatica cinerea)
- IT Molecular structure, natural product
 (of vaticinone (triterpene))
- IT New natural products
 (vaticinone (triterpene))
- IT 77-52-1P, Ursolic acid 472-15-1P, Betulinic acid 473-98-3P, Betulin 545-48-2P, Erythrodiol 4481-62-3P, Betulonic acid 13878-90-5P, Mangiferonic acid 15664-29-6P, Pheophorbide a 55511-16-5P, Dihydroschizandronic acid 67594-83-6P **101559-95-9P** 128656-75-7P **128778-80-3P** 132943-49-8P 503064-28-6P, Vaticinone
 RL: BSU (Biological study, unclassified); PRP (Properties); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (anti-HIV constituents from leaves and stems of Vatica cinerea)
- RE.CNT 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD
 RE
- (1) Anjaneyulu, V; Phytochemistry 1999, V50, P1229 HCAPLUS
 - (2) Anon; JP 02167295 1990 HCAPLUS
 - (3) Anon; Application:JP 87-299041 19871127 1990
 - (4) Argyris, E; Eur J Biochem 2001, V268, P925 HCAPLUS
 - (5) Argyris, E; J Biol Chem 1999, V274, P1549 HCAPLUS
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IT 101559-95-9P 128778-80-3P

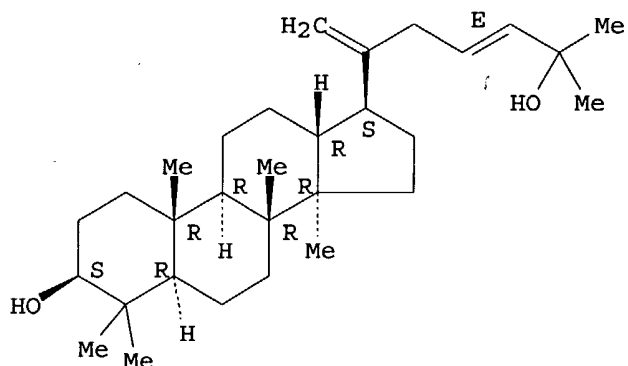
RL: BSU (Biological study, unclassified); PRP (Properties); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(anti-HIV constituents from leaves and stems of *Vatica cinerea*)

RN 101559-95-9 HCAPLUS

CN Dammara-20,23-diene-3,25-diol, (3 β ,23E) - (9CI) (CA INDEX NAME)

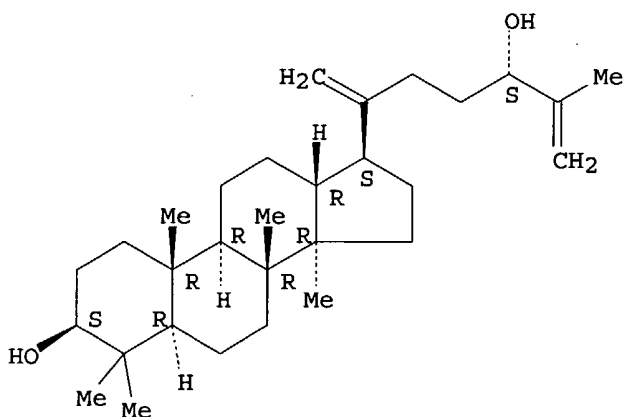
Absolute stereochemistry.
 Double bond geometry as shown.



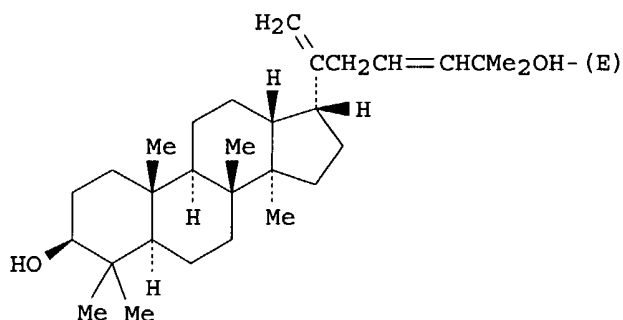
RN 128778-80-3 HCAPLUS

CN Dammara-20,25-diene-3,24-diol, (3 β ,24S) - (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L15 ANSWER 2 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1999:386115 HCAPLUS
 DN 131:214445
 ED Entered STN: 23 Jun 1999
 TI Isolation and synthesis of a novel immunosuppressive 17 α -substituted dammarane from the flour of the Palmyrah palm (*Borassus flabellifer*)
 AU Revesz, L.; Hiestand, P.; La Vecchia, L.; Naef, R.; Naegeli, H.-U.; Oberer, L.; Roth, H.-J.
 CS Novartis Pharma AG, Arthritis and Bone Research, Switzerland, 4002, Switz.
 SO Bioorganic & Medicinal Chemistry Letters (1999), 9(11), 1521-1526
 CODEN: BMCLE8; ISSN: 0960-894X
 PB Elsevier Science Ltd.
 DT Journal
 LA English
 CC 30-30 (Terpenes and Terpenoids)
 Section cross-reference(s): 1, 11
 GI



AB The novel triterpene I with a dammarane skeleton and a unknown 17 α -substitution pattern was isolated from the Palmyrah palm in low yield and prepared by synthesis in larger quantities. I was shown to be an extremely potent immunosuppressant in vitro (MLR; IC₅₀=10 ng/mL) and in vivo (DTH; ED₅₀=0.01 mg/kg p.o.). A glucocorticoid like activity was excluded.

ST dammarane triterpene isolation *Borassus prepn*; immunosuppressant dammarane triterpene isolation *prepn*

IT New natural products
 (17 α -substituted dammarane (triterpene))

IT Triterpenes
 RL: BAC (Biological activity or effector, except adverse); BOC (Biological occurrence); BSU (Biological study, unclassified); PUR (Purification or recovery); SPN (Synthetic preparation); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation)
 (dammarane; isolation and preparation of a new immunosuppressive 17 α -substituted dammarane from *Borassus*)

IT Immunosuppressants
 Immunosuppression
 Palmyra palm (*Borassus flabellifer*)
 Stille coupling reaction
 (isolation and preparation of a new immunosuppressive 17 α -substituted dammarane from *Borassus*)

IT Molecular structure, natural product
 (of a 17 α -substituted dammarane (triterpene))

IT 177472-08-1P
 RL: BAC (Biological activity or effector, except adverse); BOC (Biological

occurrence); BSU (Biological study, unclassified); PUR (Purification or recovery); SPN (Synthetic preparation); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation)

(isolation and preparation of a new immunosuppressive 17 α -substituted dammarane from Borassus)

IT 101559-95-9P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)

(isolation and preparation of a new immunosuppressive 17 α -substituted dammarane from Borassus)

IT 108-24-7, Acetic anhydride 6812-25-5 19222-66-3 39085-59-1, 2,4,6-Triisopropylbenzenesulfonyl hydrazide

RL: RCT (Reactant); RACT (Reactant or reagent)

(isolation and preparation of a new immunosuppressive 17 α -substituted dammarane from Borassus)

IT 3819-21-4P 110654-89-2P 241816-35-3P 241816-36-4P 241816-37-5P 241816-38-6P 241816-39-7P 241816-40-0P 241816-41-1P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(isolation and preparation of a new immunosuppressive 17 α -substituted dammarane from Borassus)

IT 108272-43-1P

RL: SPN (Synthetic preparation); PREP (Preparation)

(isolation and preparation of a new immunosuppressive 17 α -substituted dammarane from Borassus)

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Arseculeratne, S; Ceylon Med J 1991, V36, P137
- (2) Arseculeratne, S; Proc Soc Exp Biol Med 1981, V168, P356 MEDLINE
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- (5) Meo, T; Immunological Methods P227
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IT 177472-08-1P

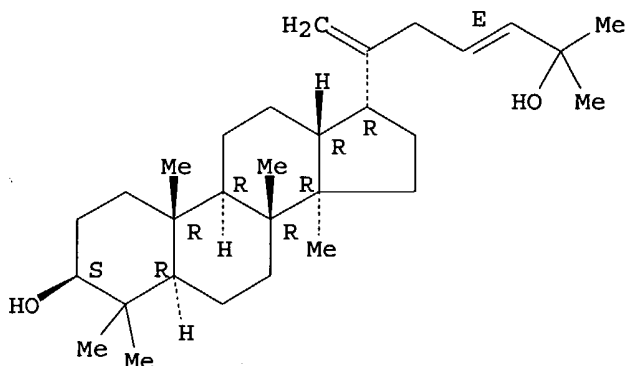
RL: BAC (Biological activity or effector, except adverse); BOC (Biological occurrence); BSU (Biological study, unclassified); PUR (Purification or recovery); SPN (Synthetic preparation); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation)

(isolation and preparation of a new immunosuppressive 17 α -substituted dammarane from Borassus)

RN 177472-08-1 HCAPLUS

CN Dammara-20,23-diene-3,25-diol, (3 β ,17 α ,23E) - (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).
Double bond geometry as shown..



IT 101559-95-9P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)

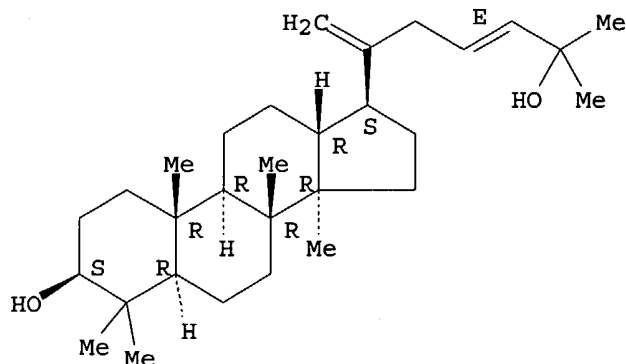
(isolation and preparation of a new immunosuppressive 17 α -substituted dammarane from Borassus)

RN 101559-95-9 HCAPLUS

CN Dammara-20,23-diene-3,25-diol, (3 β ,23E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

Double bond geometry as shown.



L15 ANSWER 3 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1997:296935 HCAPLUS

DN 126:277630

ED Entered STN: 09 May 1997

TI Tetracyclic triterpenes as cholesterol-lowering and anti-atherosclerosis agents

IN Von, Daehne Welf; Godtfredsen, Wagn Ole

PA Leo Pharmaceutical Products Ltd. A/S, Den.; Von Daehne, Welf; Godtfredsen, Wagn, Ole

SO PCT Int. Appl., 51 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM C07J013-00

ICS A61K031-56; C07J071-00; C07J015-00; C07J021-00; C07J017-00; C07J031-00

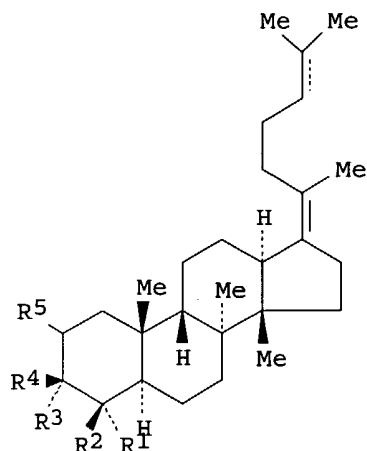
CC 30-30 (Terpenes and Terpenoids)

Section cross-reference(s): 1, 32

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9710256	A1	19970320	WO 1996-DK359	19960828 <--
	W:	AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM			
	AU 9667850	A1	19970401	AU 1996-67850	19960828 <--
	EP 863914	A1	19980916	EP 1996-928347	19960828 <--
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI			
	JP 11512402	T2	19991026	JP 1996-511568	19960828 <--
	US 6177418	B1	20010123	US 1998-43243	19980316 <--

PRAI GB 1995-18883 A 19950915 <--
 WO 1996-DK359 W 19960828 <--
 OS MARPAT 126:277630
 GI



- AB Title compds. I [R1 = H, Me; R2 = H, Me, (un)substituted CH₂OH, CH=CH₂, COH, (un)substituted CO₂H; R3, R4 = H, (un)substituted OH; R3R4 = O; R3R2, R4R1 = bond; R2R4 = O; R5 = H; R4R5 = bond] were prepared Thus, 3 β -hydroxyprotosta-17(20)Z,24-dien-29-oic acid was isolated from a crude fusidic acid solution, esterified, reduced to 3 β ,29-dihydroxyprotosta-17(20)Z,24-diene, monotosylated and reduced to 3 β -hydroxyprotosta-17(20)Z,24-diene. This compound was epoxidized to give a mixture of 17,20-epoxides and 17,20;24,25-diepoxydes.
- ST triterpene tetracyclic isolation fusidic acid reaction; protostadienoic acid hydroxy isolation reaction; anticholesteremic protostadienoic acid deriv; antiatherosclerotic protostadienoic acid deriv
- IT Antiarteriosclerotics
 (antiatherosclerotics; preparation of hydroxyprotostadienoic acid derivs. as anticholesteremic and antiatherosclerotic agents)
- IT Anticholesteremic agents
 (preparation of hydroxyprotostadienoic acid derivs. as anticholesteremic and antiatherosclerotic agents)
- IT 188602-20-2P
 RL: PUR (Purification or recovery); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (preparation of hydroxyprotostadienoic acid derivs. as anticholesteremic and antiatherosclerotic agents)
- IT 6990-06-3, Fusidic acid
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (preparation of hydroxyprotostadienoic acid derivs. as anticholesteremic and antiatherosclerotic agents)
- IT 22879-37-4P **22968-80-5P** 23534-71-6P 188602-21-3P
 188602-22-4P 188602-23-5P 188602-24-6P 188602-25-7P 188602-33-7P
 188602-34-8P 188602-35-9P 188602-38-2P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation of hydroxyprotostadienoic acid derivs. as anticholesteremic and antiatherosclerotic agents).
- IT 188602-19-9P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of hydroxyprotostadienoic acid derivs. as anticholesteremic and

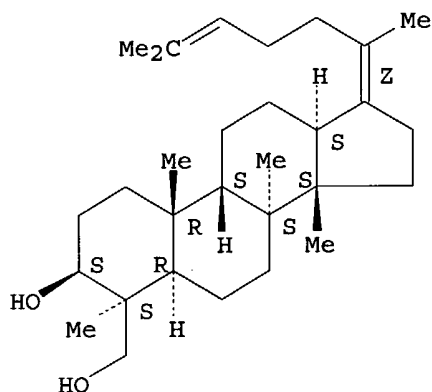
antiatherosclerotic agents)

IT 188602-26-8P 188602-27-9P 188602-28-0P 188602-29-1P 188602-30-4P
 188602-31-5P 188602-32-6P 188602-36-0P 188602-37-1P 188602-39-3P
 188602-40-6P 188602-41-7P 188602-42-8P 188602-43-9P 188602-44-0P
 188602-45-1P 188602-46-2P 188602-47-3P 188602-48-4P 188602-49-5P
 188602-50-8P 188602-51-9P 188924-02-9P
 RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (preparation of hydroxyprotostadienoic acid derivs. as anticholesteremic and antiatherosclerotic agents)

IT 22968-80-5P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation of hydroxyprotostadienoic acid derivs. as anticholesteremic and antiatherosclerotic agents)

RN 22968-80-5 HCAPLUS
 CN Dammara-17(20),24-diene-3,28-diol, (3 β ,4 β ,8 α ,9 β ,13. α l pha.,14 β ,17Z)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
 Double bond geometry as shown.



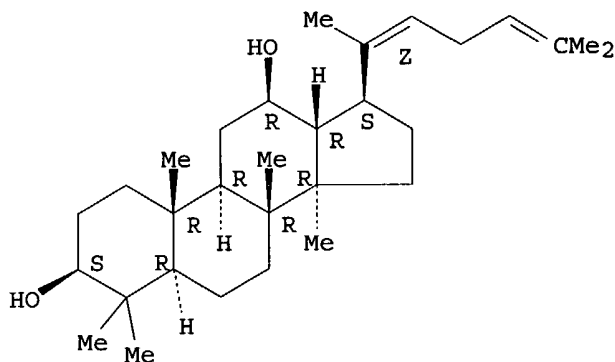
L15 ANSWER 4 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1997:41808 HCAPLUS
 DN 126:79904
 ED Entered STN: 20 Jan 1997
 TI Anticancer sapogenin extraction from ginseng and pharmaceutical compositions containing the sapogenin
 IN Hasegawa, Hideo; Sei, Shokan; Matsumya, Tomoyuki; Uchama, Masamori
 PA Hatsupii Waarudo Kk, Japan
 SO Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM C07J009-00
 ICS A61K031-575; A61K045-00
 CC 63-4 (Pharmaceuticals)
 Section cross-reference(s): 1, 11
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08291194	A2	19961105	JP 1995-115321	19950418 <--
PRAI JP 1995-115321		19950418 <--		

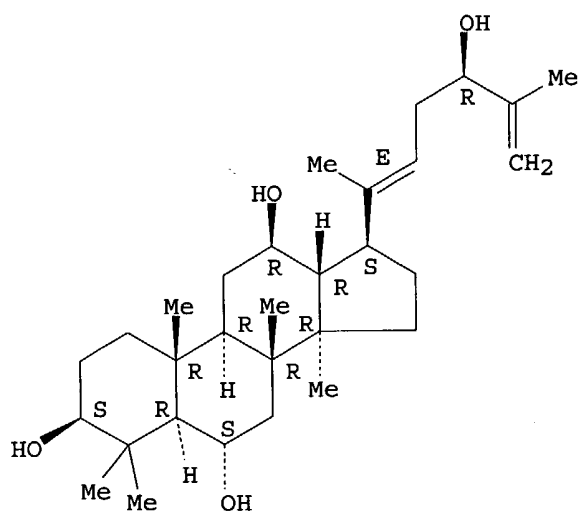
AB Extraction of anticancer sapogenins, quasipanaxadiol and quasipanaxatriol, from ginseng and pharmaceutical compns. containing the sapogenin are claimed. Tablets were formulated containing quasipanaxadiol 30 mg and lactose, crystalline

- cellulose and magnesium stearate (200 mg/tablet). Both sapogenins inhibited the growth of leukemia cell P388 in cultures.
- ST anticancer sapogenin ginseng pharmaceutical
- IT Antitumor agents
Ginseng (Panax)
Molecular structure
New natural products
Nomenclature, general
(anticancer sapogenin extraction from ginseng and pharmaceutical compns. containing the sapogenin)
- IT Sapogenins
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(anticancer sapogenin extraction from ginseng and pharmaceutical compns. containing the sapogenin)
- IT Drug delivery systems
(injections; anticancer sapogenin extraction from ginseng and pharmaceutical compns. containing the sapogenin)
- IT Antitumor agents
(leukemia; anticancer sapogenin extraction from ginseng and pharmaceutical compns. containing the sapogenin)
- IT Drug delivery systems
(tablets; anticancer sapogenin extraction from ginseng and pharmaceutical compns. containing the sapogenin)
- IT **166241-40-3P**, Quasipanaxadiol 171903-78-9P, Quasipanaxatriol
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(anticancer sapogenin extraction from ginseng and pharmaceutical compns. containing the sapogenin)
- IT **166241-40-3P**, Quasipanaxadiol
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(anticancer sapogenin extraction from ginseng and pharmaceutical compns. containing the sapogenin)
- RN 166241-40-3 HCAPLUS
- CN Dammara-20(22),24-diene-3,12-diol, (3 β ,12 β ,20Z) - (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



ED Entered STN: 20 Jul 1996
 TI Effects of ginseng saponin on modulation of multidrug resistance
 AU Park, Jong-Dae; Kim, Dong-Sun; Kwon, Hyeok-Young; Son, Sang-Kwon; Lee, You-Hui; Baek, Nam-In; Kim, Shin-Il; Rhee, Dong-Kwon
 CS Korea Ginseng & Tobacco Research Institute, Taejon, 305-345, S. Korea
 SO Archives of Pharmacal Research (1996), 19(3), 213-218
 CODEN: APHRDQ; ISSN: 0253-6269
 PB Pharmaceutical Society of Korea
 DT Journal
 LA English
 CC 1-6 (Pharmacology)
 Section cross-reference(s): 33
 AB Multidrug resistance (MDR) has been a major problem in cancer chemotherapy. To overcome this problem, the authors prepared minor ginsenosides stereoselectively from ginseng saponins and searched for a ginseng component which is effective for inhibition of MDR. MDR inhibition activity was determined by measuring cytotoxicity to MDR cells using multidrug resistant human fibrocarcinoma KB V20C, which is resistant to 20 nM vincristine and expresses high level of *mdr1* gene. Of several ginseng components, 20(S)-ginsenoside Rg3, a red ginseng saponin, was found to have the most potent inhibitory activity on MDR and it's concentration capable of inhibiting 50% growth was 82 μ M.
 ST ginseng saponin multidrug resistance modulation antitumor
 IT Ginseng
 Neoplasm inhibitors
 (effects of ginseng saponins on modulation of multidrug resistance in human cancer cells cytotoxicity to vincristine)
 IT Saponins
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (effects of ginseng saponins on modulation of multidrug resistance in human cancer cells cytotoxicity to vincristine)
 IT Glycosides
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (ginsenosides, effects of ginseng saponins on modulation of multidrug resistance in human cancer cells cytotoxicity to vincristine)
 IT Drug resistance
 (multi-, effects of ginseng saponins on modulation of multidrug resistance in human cancer cells cytotoxicity to vincristine)
 IT 14197-60-5, 20(S)-Ginsenoside Rg3 38243-03-7, 20(R)-Ginsenoside Rg3 41753-43-9, Ginsenoside Rb1
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)
 (effects of ginseng saponins on modulation of multidrug resistance in human cancer cells cytotoxicity to vincristine)
 IT 74964-14-0P, Ginsenoside Rg31 180250-87-7P 180250-88-8P 180468-67-1P
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (effects of ginseng saponins on modulation of multidrug resistance in human cancer cells cytotoxicity to vincristine)
 IT 57-22-7, Vincristine 1453-93-6, Protopanaxatriol 7755-01-3, Protopanaxadiol 11021-13-9, Ginsenoside Rb2 11021-14-0, Ginsenoside Rc 19666-76-3, Panaxadiol 22427-39-0, Ginsenoside Rg1 32791-84-7, Panaxatriol 52286-58-5, Ginsenoside Rf 52286-59-6, Ginsenoside Re 52286-74-5, 20(S)-Ginsenoside Rg2 52705-93-8, Ginsenoside Rd 63223-86-9, 20(S)-Ginsenoside Rh1 78214-33-2, 20(S)-Ginsenoside Rh2 80952-71-2, 20(R)-Ginsenoside Rh1 80952-72-3, 20(R)-Ginsenoside Rg2



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L4          319 S L3 AND 4/NR
L5          7 S L4 AND 3 12 DIOL
L6          6 S L5 NOT L1
L7          2 S L4 AND 20 24 DIENE
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L8          98 S E3 AND C5-C6-C6-C6/ES AND 4/NR
L9          6 S L8 AND TETROL
L10         2 S L1,L2
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L18 4 S L10

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105558-26-7, Ginsenoside Rh3 112246-15-8, 20(R)-Ginsenoside Rh2
 166241-39-0, Quasiprotopanxadiol 174688-80-3,
 Quasiprotopanaxatriol 174721-08-5, Ginsenoside Rh4
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological
 study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES
 (Uses)

(effects of ginseng saponins on modulation of multidrug resistance in
 human cancer cells cytotoxicity to vincristine)

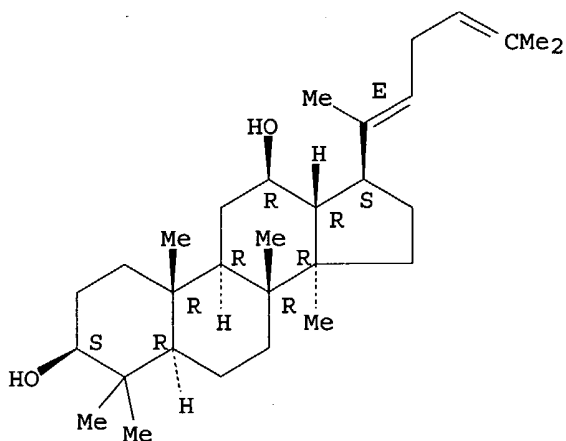
IT 166241-39-0, Quasiprotopanxadiol
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological
 study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES
 (Uses)

(effects of ginseng saponins on modulation of multidrug resistance in
 human cancer cells cytotoxicity to vincristine)

RN 166241-39-0 HCAPLUS

CN Dammara-20(22),24-diene-3,12-diol, (3 β ,12 β ,20E)- (9CI) (CA
 INDEX NAME)

Absolute stereochemistry.
 Double bond geometry as shown.



L15 ANSWER 6 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1996:337983 HCAPLUS

DN 125:11178

ED Entered STN: 11 Jun 1996

TI Tetracyclic triterpenes

IN Hiestand, Peter; Naef, Reto; Naegeli, Hans-Ulrich; Oberer, Lukas; Revesz,
 Laszlo; Roth, Hans-Joerg

PA Sandoz Ltd., Switz.; Sandoz-Patent-Gmbh; Sandoz-Erfindungen
 Verwaltungsgesellschaft M.B.H.

SO PCT Int. Appl., 59 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM C07J009-00

ICS A61K031-565; C07J001-00; A61K031-575; C07J007-00; C07J051-00

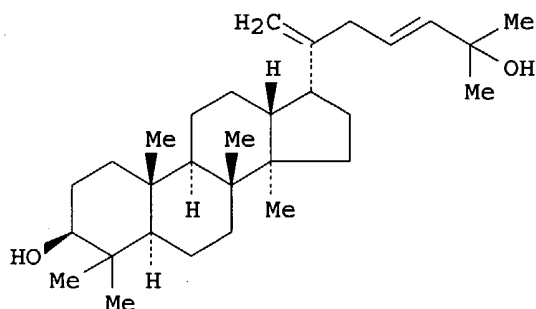
CC 30-30 (Terpenes and Terpenoids)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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	MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ,				

TT, UA
 RW: KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT,
 LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE,
 SN, TD, TG

ZA 9506279	A	19970127	ZA 1995-6279	19950717 <--
CA 2192789	AA	19960208	CA 1995-2192789	19950724 <--
AU 9531166	A1	19960222	AU 1995-31166	19950724 <--
AU 704929	B2	19990506		
CN 1154113	A	19970709	CN 1995-194373	19950724 <--
EP 801653	A2	19971022	EP 1995-926974	19950724 <--
EP 801653	A3	19971029		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, SI				
HU 76831	A2	19971128	HU 1997-246	19950724 <--
JP 10503191	T2	19980324	JP 1995-505467	19950724 <--
BR 9508344	A	19980714	BR 1995-8344	19950724 <--
FI 9700320	A	19970124	FI 1997-320	19970124 <--
NO 9700329	A	19970325	NO 1997-329	19970124 <--
US 5852005	A	19981222	US 1997-776442	19970124 <--
PRAI GB 1994-15161	A	19940727	<--	
WO 1995-EP2913	W	19950724	<--	
OS CASREACT 125:11178				
GI				



AB Dammara compds. have immunosuppressant and antiinflammatory activity and are useful as pharmaceuticals, particularly for use as immunosuppressant and anti-inflammatory agents. 17 α Dammara compds. are novel and are included per se, for example the compound of formula I [(17 α)-23-(E)-dammara-20,23-diene-3 β ,25-diol], which may be obtained from the flour of the shoots of Palmyrah palm, Borassus flabellifer L. In addition processes for the synthesis of this and other dammara compds. and intermediates thereof are described.

ST dammara compd prepn immunosuppressant antiinflammatory activity;
 dammaradienediol isolation prepn immunosuppressant antiinflammatory activity

IT Immunosuppressants
 Inflammation inhibitors
 Pharmaceutical dosage forms
 Therapeutics
 (preparation of tetracyclic triterpenes with immunosuppressant and antiinflammatory activity)

IT Toxicity
 (cytotoxicity, preparation of tetracyclic triterpenes with immunosuppressant and antiinflammatory activity)

IT Triterpenes and Triterpenoids
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(dammarane, preparation of tetracyclic triterpenes with immunosuppressant and antiinflammatory activity)

IT Immunity

(humoral, preparation of tetracyclic triterpenes with immunosuppressant and antiinflammatory activity)

IT 177472-08-1P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); IMF (Industrial manufacture); PUR (Purification or recovery); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of tetracyclic triterpenes with immunosuppressant and antiinflammatory activity)

IT 101559-95-9P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); IMF (Industrial manufacture); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of tetracyclic triterpenes with immunosuppressant and antiinflammatory activity)

IT 3819-21-4 6812-25-5 39085-59-1, 2,4,6-Triisopropylbenzenesulfonic acid hydrazide

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of tetracyclic triterpenes with immunosuppressant and antiinflammatory activity)

IT 177287-52-4P 177287-53-5P 177287-54-6P 177287-55-7P 177287-56-8P

177287-57-9P 177287-58-0P 177472-05-8P 177472-06-9P 177472-07-0P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of tetracyclic triterpenes with immunosuppressant and antiinflammatory activity)

IT 177472-08-1P

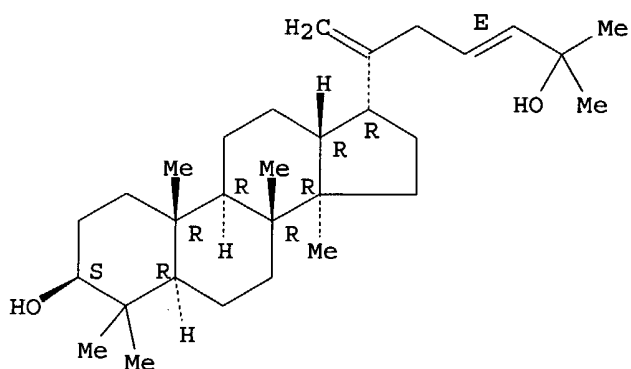
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); IMF (Industrial manufacture); PUR (Purification or recovery); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of tetracyclic triterpenes with immunosuppressant and antiinflammatory activity)

RN 177472-08-1 HCAPLUS

CN Dammara-20,23-diene-3,25-diol, (3 β ,17 α ,23E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).
Double bond geometry as shown.



IT 101559-95-9P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); IMF (Industrial manufacture); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP

(Preparation); USES (Uses)

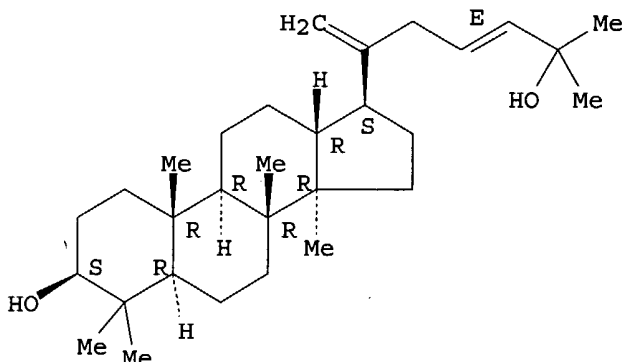
(preparation of tetracyclic triterpenes with immunosuppressant and antiinflammatory activity)

RN 101559-95-9 HCAPLUS

CN Dammara-20,23-diene-3,25-diol, (3 β ,23E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

Double bond geometry as shown.



L15 ANSWER 7 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1995:712730 HCAPLUS

DN 123:122844

ED Entered STN: 01 Aug 1995

TI Preparation and structure determination of a new glycoside, (20E)-ginsenoside Rh3, and its isomer from diol-type ginseng saponins

AU Kim, Dong Seon; Baek, Nam In; Park, Jong Dae; Lee, You Hui; Jeong, So Young; Lee, Chun Bae; Kim, Shin Il

CS College Natural Sciences, Chung Nam National University, Taejeon, 305-764, S. Korea

SO Yakhak Hoechi (1995), 39(1), 85-93

CODEN: YAHOA3; ISSN: 0513-4234

PB Pharmaceutical Society of Korea

DT Journal

LA Korean

CC 63-4 (Pharmaceuticals)

Section cross-reference(s): 33

AB Acidic and alkaline hydrolysis of diol-type ginseng saponins produced a new glycoside, (20E)-ginsenoside Rh3, and its stereoisomer (20Z), which were further subjected to alkaline hydrolysis to give their aglycons, (20E)- and (20Z)-3 β ,12 β -dihydroxydammar-20(22),24-diene. The ratio of stereoisomeric mixts. was estimated to be .apprx.5:1 from intensities of the peaks in 1H- and 13C-NMR spectra. The 1H- and 13C-NMR signals of ginsenoside Rh3, which have remained unclarified, were completely assigned by the extensive application of modern NMR techniques.

ST ginsenoside Rh3 isomer prepn structure; ginseng saponin ginsenoside Rh3 isomer prepn

IT Ginseng

Molecular structure, natural product

(preparation and structure determination of ginsenoside Rh3 isomers from diol-type ginseng saponins)

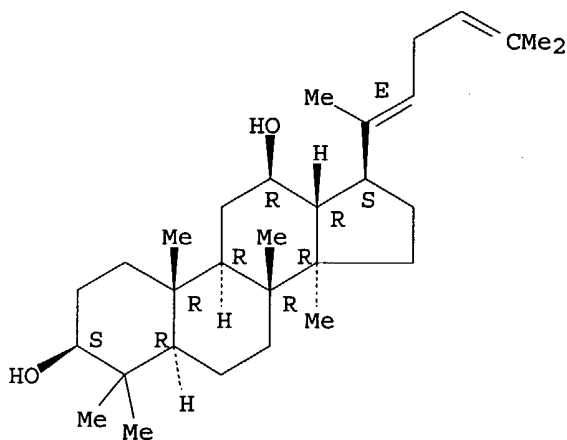
IT Saponins

RL: PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)

(preparation and structure determination of ginsenoside Rh3 isomers from diol-type ginseng saponins)

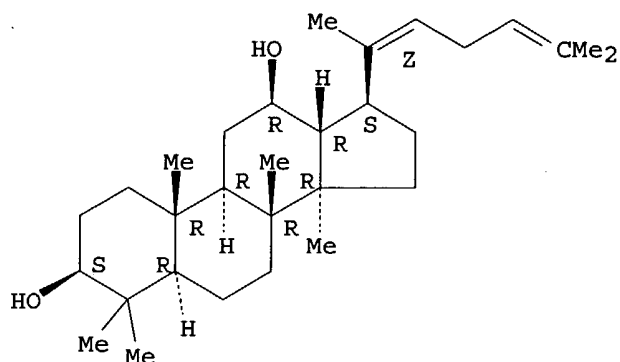
IT Hydrolysis
 (acid, preparation and structure determination of ginsenoside Rh3 isomers
 from diol-type ginseng saponins)
 IT Hydrolysis
 (base, preparation and structure determination of ginsenoside Rh3 isomers
 from diol-type ginseng saponins)
 IT 105558-26-7P, Ginsenoside Rh3 166040-90-0P **166241-39-0P**
166241-40-3P
 RL: PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation)
 (preparation and structure determination of ginsenoside Rh3 isomers from
 diol-type ginseng saponins)
 IT **166241-39-0P 166241-40-3P**
 RL: PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation)
 (preparation and structure determination of ginsenoside Rh3 isomers from
 diol-type ginseng saponins)
 RN 166241-39-0 HCAPLUS
 CN Dammara-20(22),24-diene-3,12-diol, (3 β ,12 β ,20E) - (9CI) (CA
 INDEX NAME)

Absolute stereochemistry.
 Double bond geometry as shown.



RN 166241-40-3 HCAPLUS
 CN Dammara-20(22),24-diene-3,12-diol, (3 β ,12 β ,20Z) - (9CI) (CA
 INDEX NAME)

Absolute stereochemistry.
 Double bond geometry as shown.



L15 ANSWER 8 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1991:632555 HCAPLUS
 DN 115:232555
 ED Entered STN: 29 Nov 1991
 TI New mechanistic and stereochemical insights on the biosynthesis of sterols from 2,3-oxidosqualene
 AU Corey, E. J.; Virgil, Scott C.; Sarshar, Sepehr
 CS Dep. Chem., Harvard Univ., Cambridge, MA, 02138, USA
 SO Journal of the American Chemical Society (1991), 113(21), 8171-2
 CODEN: JACSAT; ISSN: 0002-7863
 DT Journal
 LA English
 CC 30-30 (Terpenes and Terpenoids)
 Section cross-reference(s): 7, 9, 22, 32, 75
 GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

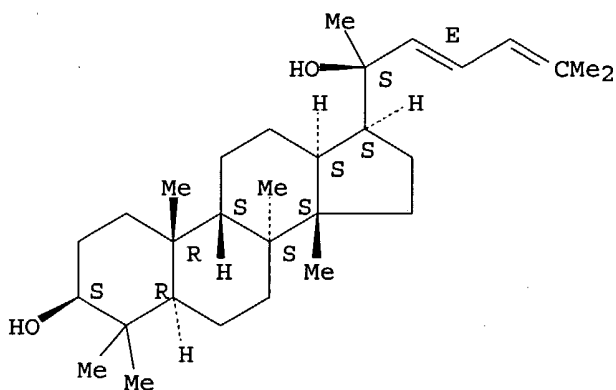
AB The enzymic cyclization of (18E, 20E)-20,21-dehydro-2,3-oxidosqualene (I) by yeast and porcine liver enzymes has been shown to produce the protostereol derivative II (R = H, R1 = CH:CHCH:CMe2) stereospecifically. The structure of II (R = H, R1 = CH2CH2CH:CMe2) was established unequivocally by correlation with the totally synthetic protostereol II (R = H, R1 = CH2CH2CH:CMe2), the structure of which was verified by X-ray crystallog. of II (R = p-BrC6H4NHCO, R1 = CH2CH2CH:CMe2). The BF3-catalyzed rearrangement at -90° in CH2Cl2 of four 20-hydroxy protosterol 3-benzoates which are epimeric at C(17) and C(20) produced parkeol derivs. The rearrangement is stereospecific at C(20) starting with the epimers having a 17β-oriented side chain III and the C(20) epimer] and completely nonstereospecific at C(20) for the epimers having a 17α-oriented side-chain. As a result of these studies it is clear that the cyclization of 2,3-oxidosqualene produces the protostereol chain IV having the 17β-oriented side-chain and that C(17)→C(20) hydride migration stereospecifically produces the natural 20R sterol configuration as a consequence of favorable stereoelectronics and restricted rotation about the C(17)-C(20) bond. The enzymic formation of II (R = H, R1 = CH:CHCH:CMe2) suggests that in the cyclization of 2,3-oxidosqualene a water mol. may help to stabilize the cation IV (non-covalently) but without competing kinetically with the C(17)→C(20) hydride migration step and that the C(21)-C(26) side-chain atoms are inaccessible to water and probably bound in a hydrophobic pocket.
 ST sterol biosynthesis mechanism stereochem; oxidosqualene bioconversion

sterol mechanism stereochem; protosterol urethane crystal mol structure; parkeol dihydro prepn; configuration retention rearrangement protosterol benzoate

- IT Stereochemistry
(of biotransformation of oxidosqualene to protosterols)
- IT Molecular structure
(of protolsterol bromophenylurethane)
- IT Crystal structure
(of protosterol bromophenylurethane chloroform solvate)
- IT Configuration
Conformation and Conformers
(of protosterol cations, stereospecificity of sterol biosynthesis in relation to)
- IT Stereoelectronic effect
(on stereospecificity of sterol biosynthesis)
- IT Steroids, preparation
RL: BPN (Biosynthetic preparation); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(hydroxy, biosynthesis of, from oxidosqualenes, mechanism and stereochem. insights to)
- IT 134003-21-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(Grignard reaction of, with isohexenylmagnesium bromide)
- IT 118198-28-0 133966-65-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(Wittig reaction of, with isooctadienylphosphonium bromide)
- IT 136658-81-6P 136658-82-7P
RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(biosynthesis and hydrogenation of)
- IT 136631-54-4P 136631-55-5P
RL: BPN (Biosynthetic preparation); BIOL (Biological study); PREP (Preparation)
(biosynthesis of)
- IT 136631-48-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(intermediate in preparation of dihydroparkeols)
- IT 134052-31-6P 136658-52-1P
RL: SPN (Synthetic preparation); PREP (Preparation)
(intermediate in preparation of protosterols from oxidosqualene)
- IT 136631-45-3P 136631-51-1P 136734-50-4P 136777-54-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and bioconversion of, with baker's yeast, microsomal protein, or porcine liver homogenate)
- IT 136734-46-8P 136734-49-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and boron trifluoride-induced rearrangement of)
- IT 136631-46-4P 136631-53-3P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and crystal structure of)
- IT 136734-43-5P 136735-34-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and desilylation or hydrogenation of)
- IT 136734-45-7P 136734-47-9P 136734-48-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and hydrogenation of)
- IT 136734-44-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and hydrogenation or reaction of, with bromophenylisocyanate)
- IT 136631-47-5P 136631-52-2P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

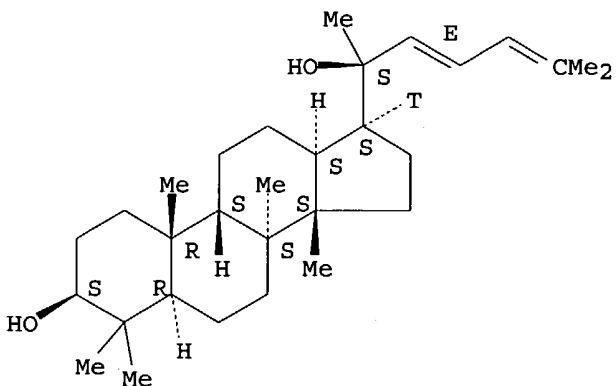
- (preparation and mol. structure of)
- IT 136658-83-8P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and silylation of)
- IT 70016-63-6P 136631-50-0P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of, from hydroxyprotosterol benzoate)
- IT 58045-43-5P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation, phosphonium salt formation, in Wittig reaction of, with epoxytetramethyloctadecatrienyl)
- IT 16647-04-4
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reduction of, in preparation of protosterols)
- IT 136658-81-6P 136658-82-7P
 RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (biosynthesis and hydrogenation of)
- RN 136658-81-6 HCAPLUS
- CN Dammara-22,24-diene-3,20-diol, (3 β ,8 α ,9 β ,13 α ,14. β ,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
 Double bond geometry as shown.

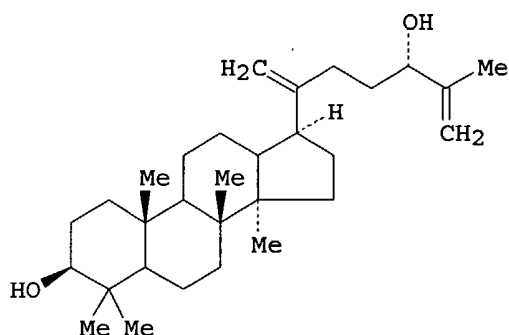


- RN 136658-82-7 HCAPLUS
- CN Dammara-22,24-diene-17-t-3,20-diol, (3 β ,8 α ,9 β ,13 α ,14. β ,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
 Double bond geometry as shown.

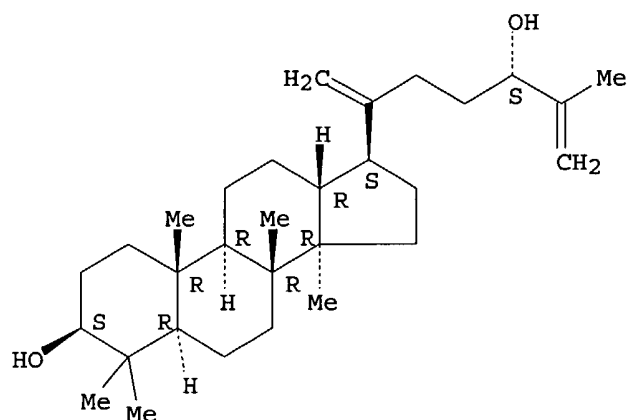


L15 ANSWER 9 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1990:494735 HCAPLUS
 DN 113:94735
 ED Entered STN: 16 Sep 1990
 TI Dammara-20,25-dien-3 β ,24 α -diol: a natural repellent of
 Acromyrmex octospinosus
 AU Hammond, Gerald B.; Baenziger, Norman C.; Wiemer, David F.
 CS Dep. Chem., Univ. Iowa, Iowa City, IA, 52242, USA
 SO Phytochemistry (1990), 29(3), 783-5
 CODEN: PYTCAS; ISSN: 0031-9422
 DT Journal
 LA English
 CC 11-1 (Plant Biochemistry)
 Section cross-reference(s): 5, 30
 GI

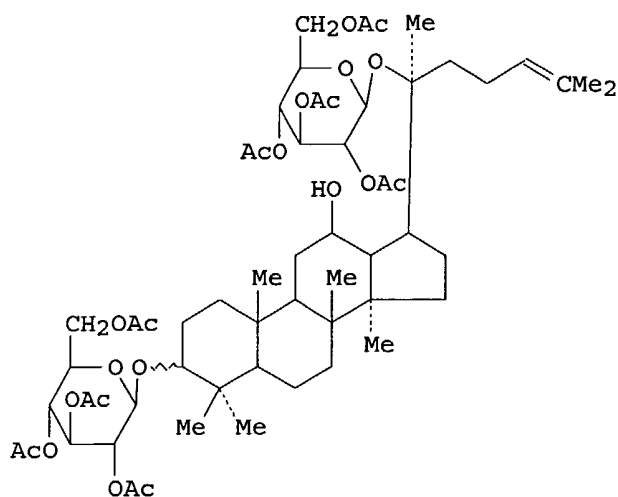


AB Dammara-20,25-diene-3 β ,24 α -diol (I) was isolated from the
 hexane extract of *Abuta racemosa*, characterized by NMR spectroscopy and
 single crystal diffraction anal., and shown to be a natural repellent of
 an attine ant.
 ST dammaradienediol *Abuta* ant repellent
 IT *Abuta racemosa*
 (dammaradiendiol from, structure and ant-repellent activity of)
 IT Insect repellents
 (dammaradiendiol, of leaf cutter ant, from *Abuta racemosa*)
 IT Configuration
 Conformation and Conformers
 Crystal structure
 (of dammaradiendiol)
 IT Triterpenes and Triterpenoids
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological
 study, unclassified); BIOL (Biological study)
 (of *Abuta racemosa*, ant-repellent activity of)
 IT *Acromyrmex octospinosus*
 (repellent of, dammaradiendiol from *Abuta racemosa* as)
 IT **128778-80-3**
 RL: BIOL (Biological study)
 (from *Abuta racemosa* leaves, isolation and structure determination and leaf
 cutter ant-repellent activity of)
 IT **128778-80-3**
 RL: BIOL (Biological study)
 (from *Abuta racemosa* leaves, isolation and structure determination and leaf
 cutter ant-repellent activity of)
 RN 128778-80-3 HCAPLUS
 CN Dammara-20,25-diene-3,24-diol, (3 β ,24S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L15 ANSWER 10 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1988:631403 HCAPLUS
 DN 109:231403
 ED Entered STN: 24 Dec 1988
 TI Semisynthetic analogs of ginsenosides, glycosides from ginseng
 AU Atopkina, L. N.; Denisenko, V. A.; Uvarova, N. I.; Elyakov, G. B.
 CS Pac. Inst. Bioorg. Chem., Vladivostok, USSR
 SO Carbohydrate Research (1988), 177, 101-9
 CODEN: CRBRAT; ISSN: 0008-6215
 DT Journal
 LA English
 CC 33-3 (Carbohydrates)
 Section cross-reference(s): 32
 OS CASREACT 109:231403
 GI



II

AB Glycosylation of dammar-24-ene-3,12 β ,20(S)-triols with 2,3,4,6-tetra-O-acetyl- α -D-glucopyranosyl bromide (I) in the presence of silver oxide in dichloromethane gives a mixture of the acetylated 3-, 12-, 20-, 3,12-di-, and 3,20-di-O- β -D-glucopyranosyl

derivs., e.g., II, in a total yield of 83-84.5%. Under similar conditions, the 3-O-acetyl derivs. of dammar-24-ene-3,12 β ,20(S)-triols give a mixture of 12- and 20-O- β -D-glucopyranosyl derivs. Condensation of betulafolienetriol both with I in the presence of Hg(CN)₂ in MeNO₂ and with 3,4,6-tri-O-acetyl- β -D-glucopyranose 1,2-(tert-Bu orthoacetate) in the presence of 2,4,6-trimethylpyridinium perchlorate in PhCl under azeotropic distillation results in dehydration and 20-dehydroxyglucosides are formed.

ST ginseng glycoside; ginsenoside analog; dammaenetriol glycosidation
acetylglucopyranosyl bromide; betulafolienetriol glycosidation
acetylglucopyranosyl bromide

IT 6892-79-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(acetylation and glucosidation of)

IT 30636-90-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(acetylation and glycosidation of, with acetobromoglucose)

IT 7755-02-4 97869-57-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(deacetylation of)

IT 117708-92-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(glycosidation of, with dammarenetriol)

IT 572-09-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(glycosidation of, with dammarenetriols)

IT 39262-15-2P 89951-12-2P 108181-50-6P 108181-51-7P 108181-52-8P
108181-53-9P 108181-54-0P 108181-55-1P 108181-56-2P 108181-58-4P
108194-57-6P 108212-06-2P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and deacetylation of)

IT 53299-00-6P 108181-49-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and glycosidation of, with acetobromoglucose)

IT 39262-14-1P 62025-49-4P 65980-72-5P 78214-33-2P 108181-57-3P
108181-59-5P 108181-60-8P 108181-61-9P 108194-58-7P 108194-59-8P
108194-60-1P **108266-93-9P** 117666-43-0P 117666-44-1P
117666-45-2P 117666-46-3P 117698-41-6P 117708-91-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

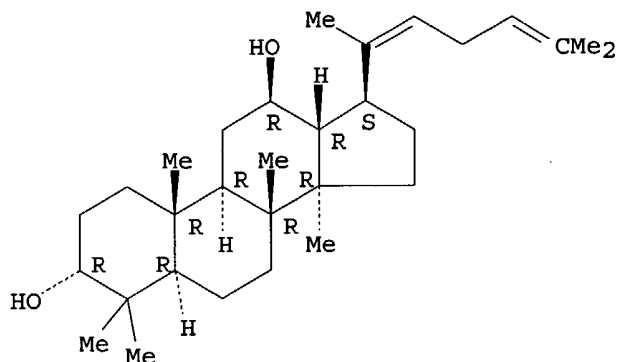
IT **108266-93-9P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 108266-93-9 HCAPLUS

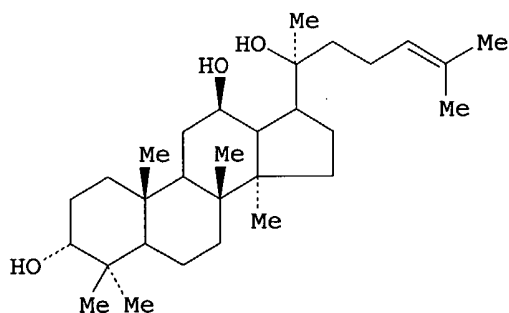
CN Dammara-20(22),24-diene-3,12-diol, (3 α ,12 β)- (9CI) (CA INDEX
NAME)

Absolute stereochemistry.

Double bond geometry unknown.



L15 ANSWER 11 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1987:423596 HCAPLUS
 DN 107:23596
 ED Entered STN: 25 Jul 1987
 TI Glycosylation of dammarane type triterpenoids. IV. β -D-Glucopyranosides of betulafolienetriol and its derivatives
 AU Atopkina, L. N.; Denisenko, V. A.; Novikov, V. L.; Uvarova, N. I.
 CS Tikhookean. Inst. Bioorg. Khim., Vladivostok, USSR
 SO Khimiya Prirodnkh Soedinenii (1986), (3), 301-12
 CODEN: KPSUAR; ISSN: 0023-1150
 DT Journal
 LA Russian
 CC 33-3 (Carbohydrates)
 Section cross-reference(s): 30
 OS CASREACT 107:23596
 GI



I

AB Koenigs-Knorr glycosidation of betulafolienetriol (I) gave 3-, 12-, 20-mono- and 3,12-, 3,20-di-O- β -D-glucopyranosides and 3-epimers. Glycosidation by the Helferich reaction or by the orthoester method was accompanied by a dehydration reaction in the side chain which led to the corresponding 20-dehydroxy derivs.
 ST glycosidation betulafolienetriol; dammarenetriol glycosidation
 IT Triterpenes and Triterpenoids
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (glycosidation of betulafolienetriol)
 IT Glycosidation
 (Helferich, of betulafolienetriol)
 IT Glycosidation
 (Koenigs-Knorr, of betulafolienetriol)
 IT 4715-05-3

RL: RCT (Reactant); RACT (Reactant or reagent)
 (condensation of, with betulafolienetriol)

IT 572-09-8, Acetobromoglucose
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (glycosidation by, of betulafolienetriol and its epimer)

IT 6892-79-1 30636-90-9 53299-00-6 108181-49-3
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (glycosidation of, by acetobromoglucose)

IT 7755-02-4P 97869-57-3P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (preparation and partial deacetylation of)

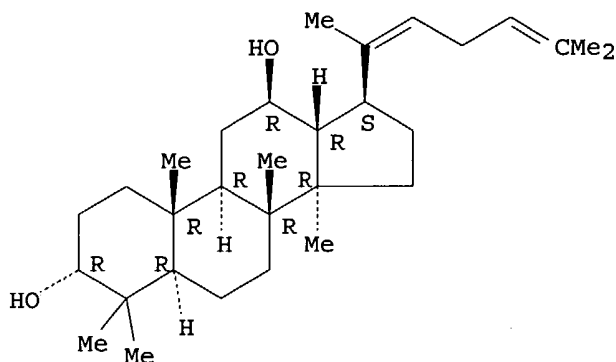
IT 39262-15-2P 51116-90-6P 89951-12-2P 108181-50-6P 108181-51-7P
 108181-52-8P 108181-53-9P 108181-54-0P 108181-55-1P 108181-56-2P
 108181-57-3P 108181-58-4P 108181-59-5P 108181-60-8P 108181-61-9P
 108194-57-6P 108194-58-7P 108194-59-8P 108194-60-1P 108212-06-2P
108266-93-9P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)

IT **108266-93-9P**
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)

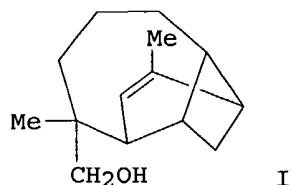
RN 108266-93-9 HCAPLUS

CN Dammara-20(22),24-diene-3,12-diol, (3 α ,12 β)- (9CI) (CA INDEX
 NAME)

Absolute stereochemistry.
 Double bond geometry unknown.

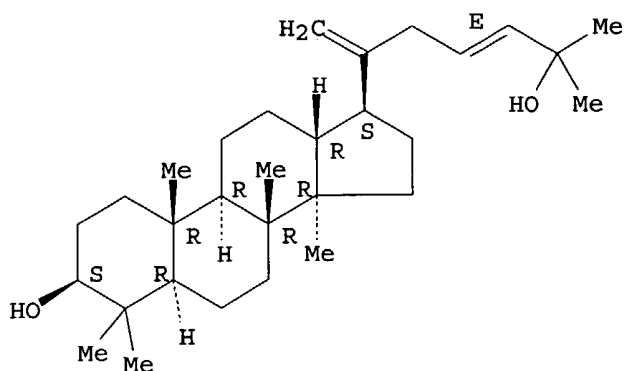


L15 ANSWER 12 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1986:165322 HCAPLUS
 DN 104:165322
 ED Entered STN: 17 May 1986
 TI Tetracyclic triterpenes and nerolidol derivatives from Santolina
 oblongifolia
 AU De Pascual Teresa, J.; Bellido, I. S.; Gonzalez, M. S.; Vicente, S.
 CS Dep. Org. Chem., Salamanca Univ., Salamanca, Spain
 SO Phytochemistry (1986), 25(1), 185-90
 CODEN: PYTCAS; ISSN: 0031-9422
 DT Journal
 LA English
 CC 11-1 (Plant Biochemistry)
 GI



- AB Three new dammarane type triterpenes, 6 polyoxygenated nerolidol derivs., and 1 tricyclic sesquiterpene, named oblongifolidiol (I), were isolated from the hexane extract of *S. oblongifolia*. The assigned structures were based on their spectra properties and (or) chemical correlations.
- ST Santolina triterpene nerolidol deriv
- IT Nomenclature, new natural products
(oblongifolidiol (sesquiterpene))
- IT Molecular structure, natural product
(of oblongifolidiol (sesquiterpene))
- IT Sesquiterpenes and Sesquiterpenoids
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(of Santolina oblongifolia)
- IT Santolina oblongifolia
(tetracyclic triterpenes and nerolidol derivs. from)
- IT Triterpenes and Triterpenoids
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(tetracyclic, of Santolina oblongifolia)
- IT 17089-08-6 27167-26-6 41628-60-8 52914-31-5 52914-32-6
101559-90-4 101559-91-5 101559-92-6 101559-93-7 101559-94-8
101559-95-9 101559-96-0 101629-23-6 101629-24-7
RL: BIOL (Biological study)
(from Santolina oblongifolia)
- IT 7212-44-4D, derivs.
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(of Santolina oblongifolia)
- IT 101559-85-7
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(of Santolina oblongifolia, isolation and structure determination of)
- IT 101559-86-8P 101559-87-9P 101559-88-0P **101559-89-1P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
- IT **101559-95-9**
RL: BIOL (Biological study)
(from Santolina oblongifolia)
- RN 101559-95-9 HCAPLUS
- CN Dammara-20,23-diene-3,25-diol, (3 β ,23E) - (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



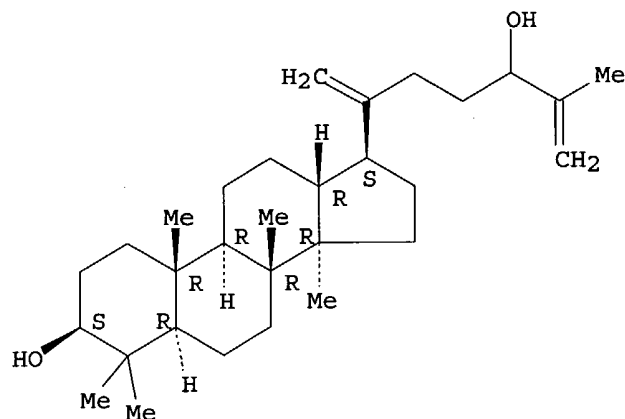
IT 101559-89-1P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 101559-89-1 HCAPLUS

CN Dammarane-20,25-diene-3,24-diol, (3β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L15 ANSWER 13 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1984:192109 HCAPLUS

DN 100:192109

ED Entered STN: 08 Jun 1984

TI Effects of side chains at C17 on carbon-13 chemical shifts of
dammarane-type tetracyclic triterpenoids

AU Denisenko, V. A.; Novikov, V. L.; Malinovskaya, G. V.; Elyakov, G. B.

CS Tikhookean. Inst. Bioorg. Khim., Vladivostok, USSR

SO Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1983), (12),
2727-34

CODEN: IASKA6; ISSN: 0002-3353

DT Journal

LA Russian

CC 30-30 (Terpenes and Terpenoids)

Section cross-reference(s): 22

AB Carbon-13 NMR of 24 dammarane derivs. confirmed that the effect of the
side chain at C-17 on chemical shifts is related to the intramol. H bond
between a C-12 OH group and an OH or epoxy group at C-20. α17-,
β13-, And β16-effects are also observed

ST NMR side chain dammarane

IT Nuclear magnetic resonance

(of carbon-13, of dammaranes, side chain effect on)

IT Triterpenes and Triterpenoids
 RL: PRP (Properties)
 (dammarane, carbon-13 NMR of)

IT Chains, chemical
 (side, effect on carbon-13 NMR of dammarane derivs.)

IT 4937-88-6 84806-18-8 84806-19-9 84806-21-3 84806-23-5
 RL: PRP (Properties)
 (carbon-13 NMR of)

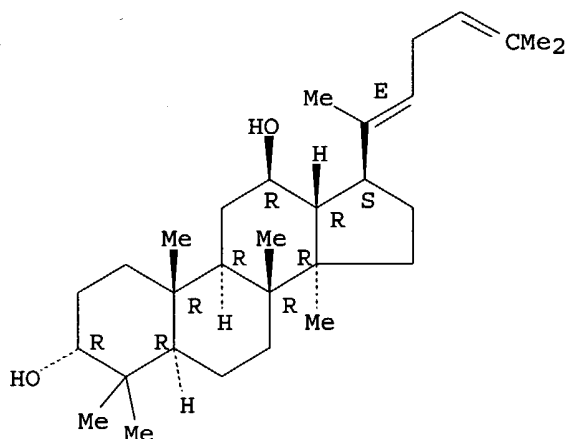
IT 6892-79-1 14351-29-2 19654-86-5 19666-76-3 19865-87-3 19942-05-3
 19942-07-5 20078-65-3 25279-16-7 25279-18-9 38736-83-3
 38790-79-3 58562-07-5 58851-26-6 75069-59-9 88195-75-9
 89951-11-1 89951-12-2 **89951-13-3**
 RL: PRP (Properties)
 (carbon-13 NMR of, effect of side chain on)

IT **89951-13-3**
 RL: PRP (Properties)
 (carbon-13 NMR of, effect of side chain on)

RN 89951-13-3 HCAPLUS

CN Dammara-20(22),24-diene-3,12-diol, (3 α ,12 β ,20E)- (9CI) (CA
 INDEX NAME)

Absolute stereochemistry.
 Double bond geometry as shown.



L15 ANSWER 14 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1969:4377 HCAPLUS

DN 70:4377

ED Entered STN: 12 May 1984

TI Helvolic acid and related compounds. V. Isolation of
 3 β -hydroxy-4 β -hydroxymethylfusida-17(20)[16, 21-cis],24-diene

AU Okuda, Shigenobu; Sato, Yoshihiro; Hattori, Tetsuyasu; Igarashi, Hidenori;
 Tsuchiya, Toshikazu; Wasada, Nobuhide

CS Univ. Tokyo, Tokyo, Japan

SO Tetrahedron Letters (1968), (46), 4769-72
 CODEN: TELEAY; ISSN: 0040-4039

DT Journal

LA English

CC 32 (Steroids)

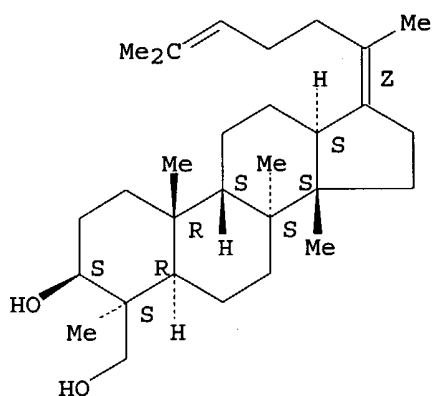
GI For diagram(s), see printed CA Issue.

AB The mixture of metabolites isolated from mycelia of *Cephalosporium caerulens*
 fractionally recrystd. gave mainly helvolic acid (I) and a diol (II),
 [α]_{20D} 19.1° (CHCl₃); diacetate (III) [α]_{20D}
 32.6°. N.M.R. data, the mol. formula, and the origin of II

suggested that II must be a precursor of I in which secondary and primary OH groups are located at C-3 and on a C-4 Me group. II (2.0 mg.) H-labeled with ^3H and fed into 100 ml. culture of *C. caerulens* preincubated 2 days, cultivation carried on for 5 days, and the product isolated gave 14.5 mg. I, m. $214-15^\circ$, with 1.71% T incorporation, demonstrating that II is an intermediate in the main biogenetic path of I with the assigned structure lacking the stereochemistry at C-3 and C-4. N.M.R., ir, and mass spectral data were given. II was assigned the structure 3 β -hydroxy-4 β -hydroxymethylfusida-17(20) [16,21-cis], -24-diene.

ST Cephalosporium caerulens metabolites; metabolites Cephalosporium
caerulens; fusidadienes; helviolic acid; acid helviolic
IT 17169-70-9P 22879-37-4P 22879-38-5P **22968-80-5P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
IT **22968-80-5P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 22968-80-5 HCAPLUS
CN Dammara-17(20),24-diene-3,28-diol, (3 β ,4 β ,8 α ,9 β ,13.al
pha.,14 β ,17Z) - (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



=>

=> fil reg

FILE 'REGISTRY' ENTERED AT 11:22:21 ON 12 JUL 2004
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STRUCTURE FILE UPDATES: 11 JUL 2004 HIGHEST RN 708207-86-7
DICTIONARY FILE UPDATES: 11 JUL 2004 HIGHEST RN 708207-86-7

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> d ide can tot l10

L10 ANSWER 1 OF 2 REGISTRY COPYRIGHT 2004 ACS on STN
RN 494753-67-2 REGISTRY
CN Dammara-20(22),25-diene-3,6,12,24-tetrol, (3 β ,6 α ,12 β ,20E,2
4R)- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN **PBM 100**
FS STEREOSEARCH
MF C30 H50 O4
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); OCCU (Occurrence); PREP
(Preparation); PRP (Properties); USES (Uses)

Absolute stereochemistry.
Double bond geometry as shown.

=> fil hcaplus

FILE 'HCAPLUS' ENTERED AT 11:22:41 ON 12 JUL 2004

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FILE COVERS 1907 - 12 Jul 2004 VOL 141 ISS 3

FILE LAST UPDATED: 11 Jul 2004 (20040711/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d all hitstr tot 116

L16 ANSWER 1 OF 4 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:796125 HCAPLUS

DN 139:296911

ED Entered STN: 10 Oct 2003

TI Extract of processed Panax genus plant

IN Kim, Dong-hyun; Bae, Eun-ah; Han, Myung-joo; Choo, Min-kyung; Park, Eun-kyung; Park, Jeong-hill

PA Ginseng Science Inc., S. Korea

SO U.S. Pat. Appl. Publ., 12 pp.

CODEN: USXXCO

DT Patent

LA English

IC ICM A61K035-78

ICS A61K031-366

NCL 424728000; 514460000

CC 63-4 (Pharmaceuticals)

Section cross-reference(s): 16

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003190378	A1	20031009	US 2003-345209	20030116
	WO 2003086438	A1	20031023	WO 2003-KR43	20030110
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
PRAI	KR 2002-18856	A	20020408		
	KR 2002-82055	A	20021221		
AB	The present invention relates to an extract of processed Panax genus plant,				

the preparation thereof and compns. containing the same having anticancer or anti-allergic activity. More particularly, the present invention relates to a processed ginseng product with enhanced pharmacol. effects due to serial treatment i.e., acid-treatment or heat-treatment of a Panax genus plants and subsequent bio-converting treatment such as lactic fermenting and intestinal-bacterial fermenting process so as to make a ratio of ginsenoside (Rk2 + Rh3 + protopanaxadiol + 20-dehydroprotopanaxadiol) to (Rg3 + Rg5 + Rk1) of above 0.1. The extract of processed Panax genus plant in the present invention has inhibitory effect for cancer or allergic diseases and it is useful in the prevention or treatment of cancer or allergic diseases.

ST Panax ext processing antiallergy

IT Allergy inhibitors

Antitumor agents

Fermentation

Lactic acid bacteria

Panax

Panax pseudoginseng

(extract of processed Panax genus plant)

IT Glycosides

Saponins

RL: NPO (Natural product occurrence); PEP (Physical, engineering or chemical process); PYP (Physical process); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); PROC (Process); USES (Uses)

(extract of processed Panax genus plant)

IT 7755-01-3, Protopanaxadiol 11021-13-9, Ginsenoside Rb2 14197-60-5, Ginsenoside Rg3 22427-39-0, Ginsenoside Rg1 41753-43-9, Ginsenoside Rb1 52286-58-5, Ginsenoside Rf 52286-59-6, Ginsenoside Re 53963-43-2, Ginsenoside F1 63223-86-9, Ginsenoside Rh1 78214-33-2, Ginsenoside Rh2 105558-26-7, Ginsenoside Rh3 126223-28-7, Ginsenoside F4 186763-78-0, Ginsenoside Rg5 364779-14-6, Ginsenoside Rk2

494753-66-1

RL: NPO (Natural product occurrence); PEP (Physical, engineering or chemical process); PYP (Physical process); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); PROC (Process); USES (Uses)

(extract of processed Panax genus plant)

IT **494753-66-1**

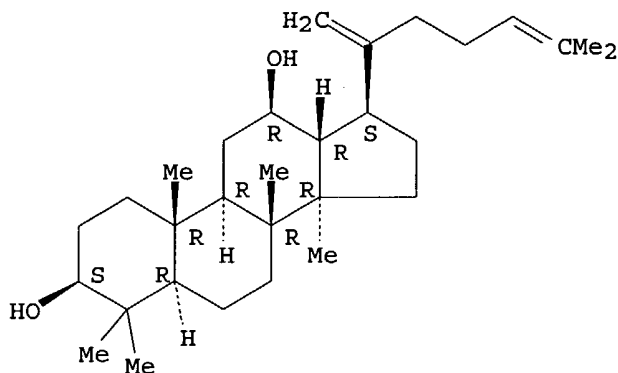
RL: NPO (Natural product occurrence); PEP (Physical, engineering or chemical process); PYP (Physical process); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); PROC (Process); USES (Uses)

(extract of processed Panax genus plant)

RN 494753-66-1 HCAPLUS

CN Dammara-20,24-diene-3,12-diol, (3 β ,12 β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



AN 2003:796124 HCAPLUS
 DN 139:296910
 ED Entered STN: 10 Oct 2003
 TI Use of the extract of processed Panax genus plant and saponins isolated therefrom
 IN Kim, Dong-Hyun; Bae, Eun-Ah; Han, Myung-Joo; Choo, Min-Kyung; Park, Eun-Kyung; Park, Jeong-Hill
 PA Ginseng Science Inc., S. Korea
 SO U.S. Pat. Appl. Publ., 11 pp.
 CODEN: USXXCO
 DT Patent
 LA English
 IC ICM A61K035-78
 ICS A61K031-366
 NCL 424728000; 514460000
 CC 63-4 (Pharmaceuticals)
 Section cross-reference(s): 1, 16
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003190377	A1	20031009	US 2003-345208	20030116
	WO 2003086439	A1	20031023	WO 2003-KR44	20030110
	W:				
	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW:				
	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
PRAI	KR 2002-18843	A	20020408		
	KR 2002-85955	A	20021228		
AB	The present invention relates to novel use of the extract of processed Panax genus having anti-Helicobacter pylori activity. More particularly, the present invention relates to a processed Panax genus extract with enhanced pharmacol. effects due to subsequent treatment i.e., acid-treatment or heat-treatment of a Panax genus plants and bio-converting treatment such as lactic acid bacterial fermenting and intestinal bacterial fermenting process so as to make a ratio of ginsenoside (Rk2 + Rh3 + protopanaxadiol + 20-dehydropotopanaxadiol) to (Rg3 + Rg5 + Rk1) of above 0.1. The extract of processed Panax genus plant in the present invention has inhibitory effect for Helicobacter pylori bacteria and H+/K+-ATPase enzyme and, therefore, it is useful in the prevention or treatment of gastrointestinal diseases caused by abnormal proliferation of Helicobacter pylori such as gastritis, gastric ulcer, duodenal ulcer and gastric cancer.				
ST	Panax ext saponin Helicobacter				
IT	Digestive tract, disease Drug delivery systems Helicobacter pylori Panax (use of extract of processed Panax genus plant and saponins isolated therefrom)				
IT	Glycosides Saponins RL: NPO (Natural product occurrence); PAC (Pharmacological activity); PEP (Physical, engineering or chemical process); PYP (Physical process); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); PROC (Process); USES (Uses) (use of extract of processed Panax genus plant and saponins isolated therefrom)				
IT	7755-01-3	11021-14-0, GinsenosideRc	14197-60-5	30636-90-9	

34080-08-5 38243-03-7 41753-43-9, Ginsenoside Rb1 63223-86-9
 78214-33-2 105558-26-7, Ginsenoside Rh3 112246-15-8 186763-78-0,
 Ginsenoside Rg5 364779-14-6, Ginsenoside Rk2 **494753-66-1**
 494753-69-4, Ginsenoside Rk1

RL: NPO (Natural product occurrence); PAC (Pharmacological activity); PEP
 (Physical, engineering or chemical process); PYP (Physical process); THU
 (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); PROC
 (Process); USES (Uses)

(use of extract of processed Panax genus plant and saponins isolated
 therefrom)

IT **494753-66-1**

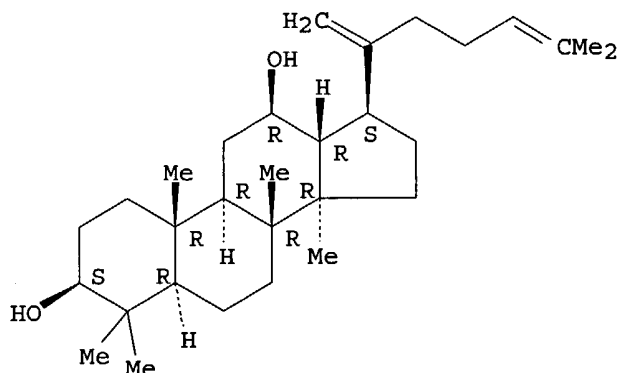
RL: NPO (Natural product occurrence); PAC (Pharmacological activity); PEP
 (Physical, engineering or chemical process); PYP (Physical process); THU
 (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); PROC
 (Process); USES (Uses)

(use of extract of processed Panax genus plant and saponins isolated
 therefrom)

RN 494753-66-1 HCAPLUS

CN Dammara-20,24-diene-3,12-diol, (3 β ,12 β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L16 ANSWER 3 OF 4 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:355832 HCAPLUS

DN 138:362651

ED Entered STN: 09 May 2003

TI Novel dammarane sapogenins, their use as anti-cancer agents, and a process
 for producing same

IN Huang, Dong; Qi, Dong Feng

PA Can.

SO U.S. Pat. Appl. Publ., 20 pp., Cont.-in-part of U.S. Ser. No. 910,887.

CODEN: USXXCO

DT Patent

LA English

IC ICM A61K031-704

ICS C07J001-00; C07J009-00; A61K031-56

NCL 514026000; 514182000; 536005000; 552540000

CC 1-6 (Pharmacology)

Section cross-reference(s): 11, 63

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003087836	A1	20030508	US 2001-982018	20011019
	US 2003087835	A1	20030508	US 2001-910887	20010724
	WO 2003010182	A1	20030206	WO 2002-CA1173	20020724

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
 CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,

4 REFERENCES IN FILE CA (1907 TO DATE)
4 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 139:296911

REFERENCE 2: 139:296910

REFERENCE 3: 138:362651

REFERENCE 4: 138:133977

=> fil uspatall

FILE 'USPATFULL' ENTERED AT 11:22:31 ON 12 JUL 2004

CA INDEXING COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'USPAT2' ENTERED AT 11:22:31 ON 12 JUL 2004

CA INDEXING COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)

=> d bib abs hitstr tot 118

L18 ANSWER 1 OF 4 USPATFULL on STN

AN 2003:270776 USPATFULL

TI Extract of processed Panax genus plant, the preparation method thereof,
and compositions containing the same

IN Kim, Dong-Hyun, Seoul, KOREA, REPUBLIC OF
Bae, Eun-Ah, Seoul, KOREA, REPUBLIC OF
Han, Myung-Joo, Seoul, KOREA, REPUBLIC OF
Choo, Min-Kyung, Seoul, KOREA, REPUBLIC OF
Park, Eun-Kyung, Seoul, KOREA, REPUBLIC OF
Park, Jeong-Hill, Seoul, KOREA, REPUBLIC OF

PA Ginseng Science Inc. (non-U.S. corporation)

PI US 2003190378 A1 20031009

AI US 2003-345209 A1 20030116 (10)

PRAI KR 20020408

KR 20021221

DT Utility

FS APPLICATION

LREP FOLEY AND LARDNER, SUITE 500, 3000 K STREET NW, WASHINGTON, DC, 20007

CLMN Number of Claims: 29

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 1106

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to an extract of processed Panax genus plant, the preparation thereof and compositions containing the same having anticancer or anti-allergic activity. More particularly, the present invention relates to a processed ginseng product with enhanced pharmacological effects due to serial treatment i.e., acid-treatment or heat-treatment of a Panax genus plants and subsequent bio-converting treatment such as lactic fermenting and intestinal-bacterial fermenting process so as to make a ratio of ginsenoside (Rk.sub.2+Rh.sub.3+protopanaxadiol+20-dehydroprotopanaxadiol) to (Rg.sub.3+Rg.sub.5+Rk.sub.1) of above 0.1. The extract of processed Panax genus plant in the present invention has inhibitory effect for cancer or allergic diseases and it is useful in the prevention or treatment of cancer or allergic diseases.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

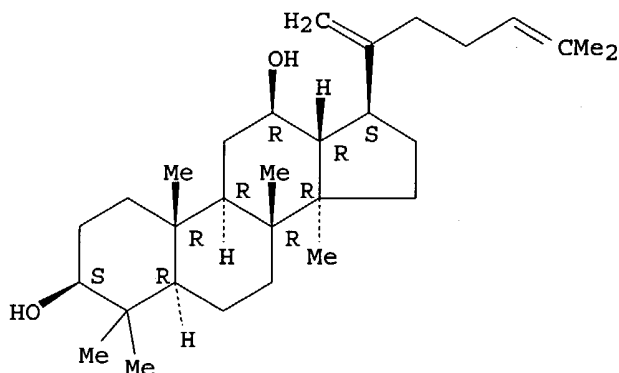
IT 494753-66-1

(extract of processed Panax genus plant)

RN 494753-66-1 USPATFULL

CN Dammara-20,24-diene-3,12-diol, (3 β ,12 β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L18 ANSWER 2 OF 4 USPATFULL on STN
 AN 2003:270775 USPATFULL
 TI Novel use of the extract of processed Panax genus plant and saponin compound isolated therefrom
 IN Kim, Dong-Hyun, Seoul, KOREA, REPUBLIC OF
 Bae, Eun-Ah, Seoul, KOREA, REPUBLIC OF
 Han, Myung-Joo, Seoul, KOREA, REPUBLIC OF
 Choo, Min-Kyung, Seoul, KOREA, REPUBLIC OF
 Park, Eun-Kyung, Seoul, KOREA, REPUBLIC OF
 Park, Jeong-Hill, Seoul, KOREA, REPUBLIC OF
 PA Ginseng Science Inc. (non-U.S. corporation)
 PI US 2003190377 A1 20031009
 AI US 2003-345208 A1 20030116 (10)
 PRAI KR 20020408
 KR 20021228
 DT Utility
 FS APPLICATION
 LREP FOLEY AND LARDNER, SUITE 500, 3000 K STREET NW, WASHINGTON, DC, 20007
 CLMN Number of Claims: 13
 ECL Exemplary Claim: 1
 DRWN No Drawings
 LN.CNT 1003
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.
 AB The present invention relates to novel use of the extract of processed Panax genus having anti-Helicobacter pylori activity. More particularly, the present invention relates to a processed Panax genus extract with enhanced pharmacological effects due to subsequent treatment i.e., acid-treatment or heat-treatment of a Panax genus plants and bio-converting treatment such as lactic acid bacterial fermenting and intestinal bacterial fermenting process so as to make a ratio of ginsenoside (Rk.sub.2+Rh.sub.3+protopanaxadiol+20-dehydroprotopanaxadiol) to (Rg.sub.3+Rg.sub.5+Rk.sub.1) of above 0.1. The extract of processed Panax genus plant in the present invention has inhibitory effect for Helicobacter pylori bacteria and H.sup.+ /K.sup.+ -ATPase enzyme and, therefore, it is useful in the prevention or treatment of gastrointestinal diseases caused by abnormal proliferation of Helicobacter pylori such as gastritis, gastric ulcer, duodenal ulcer and gastric cancer.

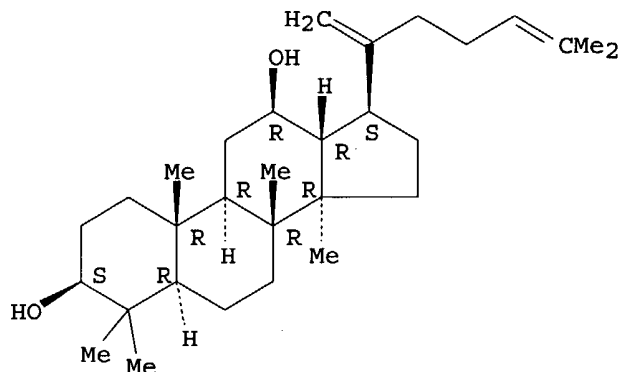
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 494753-66-1

(use of extract of processed Panax genus plant and saponins isolated therefrom)

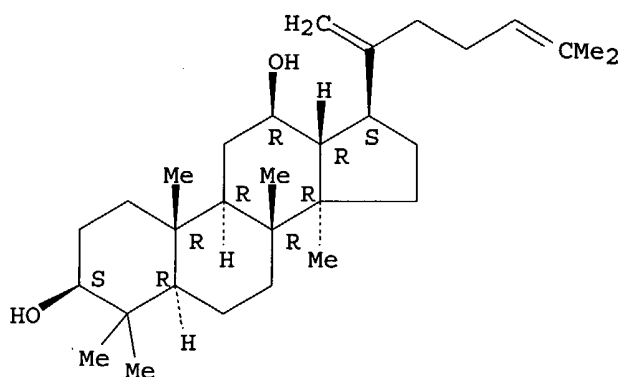
RN 494753-66-1 USPATFULL
 CN Dammar-20,24-diene-3,12-diol, (3 β ,12 β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



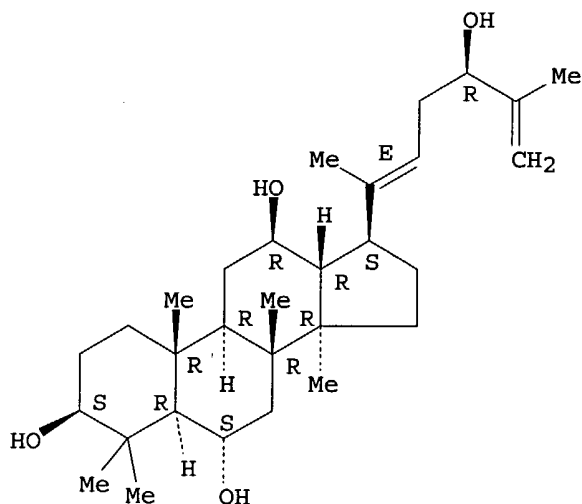
L18 ANSWER 3 OF 4 USPATFULL on STN
 AN 2003:127621 USPATFULL
 TI Novel dammarane sapogenins, their use as anti-cancer agents, and a process for producing same
 IN Huang, Dong, Surrey, CANADA
 Qi, Dong Feng, Shenyang City, CHINA
 PI US 2003087836 A1 20030508
 AI US 2001-982018 A1 20011019 (9)
 RLI Continuation-in-part of Ser. No. US 2001-910887, filed on 24 Jul 2001, PENDING
 DT Utility
 FS APPLICATION
 LREP Oyen Wiggs Green & Mutala, Gerald O.S. Oyen, #480 - 601 West Cordova Street, Vancouver, BC, V6B 1G1
 CLMN Number of Claims: 34
 ECL Exemplary Claim: 1
 DRWN 7 Drawing Page(s)
 LN.CNT 991
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.
 AB This invention relates to a group of novel sapogenins, their use in anti-cancer applications, and to a process for their production. More particularly, this invention pertains to a novel group of dammarane sapogenins, PAM-120, PBM-110 and PBM-100 (the dammarane sapogenine structure is specifically clean of any sugar moieties (glycons) at any position and hydroxyl at C-20) and PAN-20 and PAN-30 (the dammarane sapogenin structure has sugar moieties but is free of hydroxyl at C-20), obtained by chemical cleavage of dammarane saponins. The invention also includes a novel application of the said sapogenins for anti-cancer treatment by using them separately or together, and/or jointly with other drugs, as well as to the process of producing these novel sapogenins. Said novel dammarane sapogenins show surprising anti-cancer effect when applied, particularly against multi-drug resistant cancers.
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.
 IT 494753-66-1P, PAM-120 494753-67-2P, PBM-100
 (isolation of dammarane sapogenins and their use as anticancer agents)
 RN 494753-66-1 USPATFULL
 CN Dammar-20,24-diene-3,12-diol, (3 β ,12 β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 494753-67-2 USPATFULL
 CN Dammarane-20(22),25-diene-3,6,12,24-tetrol, (3 β ,6 α ,12 β ,20E,24R)-(9CI) (CA INDEX NAME)

Absolute stereochemistry.
 Double bond geometry as shown.



L18 ANSWER 4 OF 4 USPATFULL on STN
 AN 2003:127620 USPATFULL
 TI Novel aglycon dammarane sapogenins, their use as anti-cancer agents, and a process for producing same
 IN Huang, Dong, Surrey, CANADA
 Qi, Dong Feng, Shenyang City, CHINA
 PI US 2003087835 A1 20030508
 AI US 2001-910887 A1 20010724 (9)
 DT Utility
 FS APPLICATION
 LREP Oyen Wiggs Green & Mutala, #480 - The Station, 601 West Cordova Street, Vancouver, BC, V6G 1G1
 CLMN Number of Claims: 32
 ECL Exemplary Claim: 1
 DRWN 6 Drawing Page(s)
 LN.CNT 991
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.
 AB This invention relates to a group of novel sapogenins, their use in anti-cancer applications, and to a process for their production. More

particularly, this invention pertains to a novel group of dammarane sapogenins, PAM-120, PBM-110 and PBM-100 (the dammarane sapogenine structure is specifically clean of any sugar moieties (glycons) at any position and hydroxyl at C-20) and PAN-20 and PAN-30 (the dammarane sapogenin structure has sugar moieties but is free of hydroxyl at C-20), obtained by chemical cleavage of dammarane saponins. The invention also includes a novel application of the said sapogenins for anti-cancer treatment by using them separately or together, and/or jointly with other drugs, as well as to the process of producing these novel sapogenins. Said novel dammarane sapogenins show surprising anti-cancer effect when applied, particularly against multi-drug resistant cancers.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

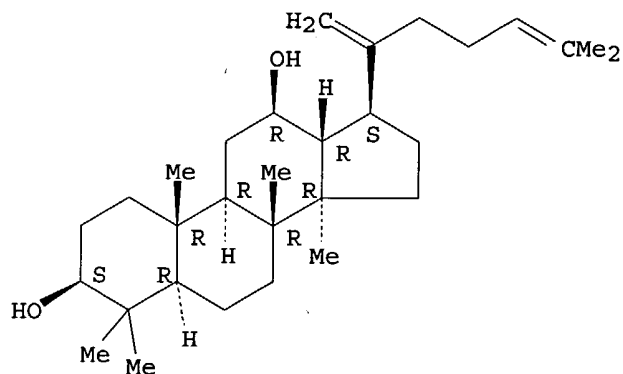
IT 494753-66-1P, PAM 120 494753-67-2P, PBM 100

(process for producing dammarane sapogenins from ginseng and their use as anticancer agents)

RN 494753-66-1 USPTFULL

CN Dammara-20,24-diene-3,12-diol, (3 β ,12 β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 494753-67-2 USPTFULL

CN Dammara-20(22),25-diene-3,6,12,24-tetrol, (3 β ,6 α ,12 β ,20E,24R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

Double bond geometry as shown.

